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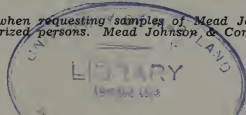
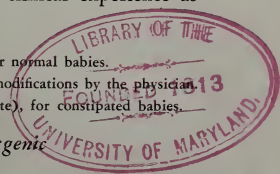
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Volume XXXII

January, 1939

No. 1

A SYMPOSIUM ON THE PRESENT-DAY USES OF SULFANILAMIDE

SULFANILAMIDE IN MENINGOCOCCIC MENINGITIS*

GILBERT J. LEVY, M.D., Memphis

THE ORIGINAL report of Domagk¹ demonstrated the curative effect of certain sulphonamide compounds in streptococcal infection. This has been the basis for a new field of chemotherapeutic investigation of bacterial infections. Following Domagk's original report French observers, Trefouel, Nitti, and Bovet,² found sulfanilamide constituted the active fraction of both "prontosil and prontosil solution." They studied the effect of sulfanilamide in experimental infections in mice and found it had a decided bacteriostatic effect upon beta hemolytic streptococci. This work was soon followed by the report of Buttle, Gray, and Stephenson,³ showing that sulfanilamide was capable of curing meningococcic infections in mice. Proom⁴ continued this work upon meningococci and found that curative action could be demonstrated against as many as 1,000,000 fatal doses if adequate therapy was begun immediately after infection. Proom found sulfanilamide extremely active against three strains of type one meningococcus and three strains of type two meningococcus. He also found that sulfanilamide is effective when given orally.

Just at this same time favorable clinical results were presented in a preliminary clinical report by Schwentker, Gelman, and

Long⁵ in a series of ten cases of meningococcus meningitis and one case of meningococcemia. Their mortality was nine per cent.

Marshall, Emerson, and Cutting⁶ reported in a very valuable study a method for determining the sulfanilamide content of body fluids. The method is based on the diazotization of the compound and coupling with diamethyl-a-naphthylamine to produce a dye which can be estimated colorimetrically. After a single dose of chemical by mouth in man, absorption appears to occur within three or four hours as at this time a peak was reached in the blood sulfanilamide level. Then the blood level fell rapidly and in twenty-four hours a major part of the compound was found to have been excreted. This would suggest that oral administration is indicated in preference to the subcutaneous route. The findings of Marshall et al showed further that the drug passed rapidly into the spinal fluid and into empyemas, ascitic, and other body fluids. In patients recovered, when large amounts are administered daily in divided doses, 100 per cent may be recovered from the urine when equilibrium between intake and output is established. It takes from two to three days to establish this equilibrium and the same time to free the body of the drug after it is discontinued. These observations of Marshall and his associates have afforded a rational basis for determining therapy in infected human beings. A method is now afforded in correlating clin-

*Read before the Tennessee State Medical Association, Nashville, April 12, 13, 14, 1938.

ical improvement in patients with blood sulfanilamide levels.

Branham and Rosenthal⁷ tested a new compound disulphanilamide against streptococci and meningococcic infections in mice and found it to have a therapeutic value at least five times as favorable as that of sulfanilamide when injected subcutaneously. They also found prontosil and prontosil soluble inferior to sulfanilamide upon pneumococcus, streptococcus, and meningococcus infections in mice.

Recently Branham and Rosenthal⁸ have shown marked therapeutic action of sulfanilamide in mice in which a meningococcus infection has been produced experimentally. The drug has been found to be more effective by subcutaneous injection than by mouth when administered in the same dosage.

A comparison was made between sulfanilamide and serum therapy with ten strains of meningococcic. With three the drug was found more effective, with four the serum was more effective, and with three strains the activity was equal. They believe that the combination of serum and drug therapy yielded much better results than either alone.

Schwentker⁹ at the round-table discussion of meningococcic meningitis at New York last June reported a series of fifty-two cases treated with sulfanilamide with eight deaths. This is a mortality of fifteen per cent. Two of these patients were moribund on admission and died three to seven hours after admission. If these cases were excluded there remains fifty cases with six deaths, a mortality of twelve per cent. Of his previous 278 consecutive patients treated with antimeningococcus serum in the months immediately preceding the instigation of sulfanilamide therapy there were eighty-five deaths or thirty per cent mortality. Excluding deaths within twenty-four hours, there were forty-four deaths or nineteen per cent mortality compared with twelve per cent mortality with sulfanilamide. Sterility of the spinal fluid occurred in all cases treated.

Willien¹⁰ has recently reported in a series of five cases and one recurrence with complete recovery. All of these cases received

an initial dose of .8 per cent sulfanilamide solution subcutaneously and thereafter sulfanilamide orally.

We wish to report six cases of meningococcus meningitis and one case of meningococcus sepsis treated at the Isolation Department of the John Gaston Hospital. These cases were all admitted between August 27, 1937, and March 12, 1938. The entire group of cases were sporadic in type, but all of severe intensity. The ages represented ranged from five months to thirty-eight years.

METHOD OF TREATMENT

The drug was administered subcutaneously and orally to the one case of meningococcus sepsis. All the six other cases received sulfanilamide orally. For parenteral injection one per cent solution of powdered crystalline sulfanilamide is prepared in physiologic solution of sodium chloride. The method employed at the Isolation Hospital is to dissolve eight to ten grams of sulfanilamide in 1,000 cubic centimeters of physiologic saline solution which has just been allowed to come to a boil. The solution is then cooled to thirty-seven degrees centigrade. This solution is injected subcutaneously in volumes of 100 to 500 cubic centimeters according to the weight of the patient.

(a) For oral administration a large initial dose is given with the aim of obtaining a blood level of at least ten milligrams per cent within twenty-four hours.

(b) The drug is then given every four hours day and night until there is definite improvement in the patient's condition. The treatments are usually discontinued when the culture of two or three consecutive specimens of spinal fluid have proved sterile.

We have had the valuable assistance of Dr. W. B. Wendell¹¹ of the chemistry department of the University of Tennessee in determining the methemoglobinemia and sulfhemoglobinemia of our cases. He has demonstrated repeatedly the control of excessive methemoglobinemia by the injection of one per cent methylene blue intravenously.

SUGGESTED DOSAGE OF SULFANILAMIDE

	TOTAL DAILY DOSAGE			
	Grams		No. 5 Grain Tablets	
	Med.	Severe	Mild	Severe
Infants up to 40 lbs.-----	1-1.5	2-5	3-5	6-10
Children 40 to 80 lbs.-----	2-2.7	4-6	7-9	12-18
Older children 80 to 120 lbs.-----	3-4	6-8	10-12	20-24
Adults over 120 lbs.-----	4-5	7-10	12-16	24-32

REPORT OF CASES

Case No. 1.—G. W., negro girl, age two and one-half years, admitted in critical con-

dition August 27, 1937, with history of diarrhea for four days. Temperature 106 degrees. Very listless. Lumbar puncture done with negative findings. Blood culture taken and reported as positive meningococcus on August 28. Sulfanilamide therapy consisted of .8 per cent solution subcutaneously and oral therapy. Immediate improvement followed. Temperature dropped to normal forty-eight hours after admission. Blood culture negative on September 1. Discharged as cured September 4.

TABLE I
COURSE IN CASE 1

G. W.

MENINGOCOCCEMIA

Isolation Hospital

Colored, Female, 2½ Years

DATE 1937	BLOOD		SPINAL FLUID	SULFANILAMIDE		CLINICAL COURSE
	Culture	W. B. C.		0.8% Sol. in N. Saline	Grains by Mouth	
8/27	Positive	4,800	7 Cells Culture Negative			Critical, Neuro. Neg. Diarrhoea.
8/28	Positive	5,800		50 cc. Subet.		
8/29				100 cc. Subet.		Improved.
8/30		8,650		100 cc. Subet.	15	
8/31		8,400		100 cc. Subet.	30	Improved.
9/1	Negative	11,000		100 cc. Subet.	30	
9/2		12,400			30	
9/3	Negative	12,500			30	Symptom Free.
9/4		11,000	Discharged Cured.	450 cc.	135	
				4.5X.78X15=53 Gr.	53	
				TOTAL	188 Gr.	

Case No. 2.—L. W., white girl, age ten years, admitted October 6, 1937, in critical condition. Illness of five days' duration. Typical signs and symptoms of meningitis. Skin showed many petechiae present. Spinal fluid smear and culture as well as blood culture all reported positive. Initial spinal fluid count was 4,600 cells with eighty-five per cent polymorphonuclear. Within forty-eight hours, with only oral sulfanilamide therapy spinal fluid culture was negative and cell count 333. Patient clinically well in five days.

Case No. 3.—J. H., Jr., white male, age

five months, admitted December 27, 1937, with history of high fever of one week duration. Marked rigidity of neck, bulging anterior fontanelle. Positive Kernig and positive Brudzinski. Scattered macular eruption over extremities. Spinal fluid direct smear positive for meningococci. Spinal fluid culture positive December 28. Initial lumbar puncture 2,880 cells, ninety-five per cent polymorphonuclear before initiating sulfanilamide therapy. Seventy-five cubic centimeters of Ferry's antitoxin given intravenously on December 28. Spinal fluid

culture negative on December 30, which well on ninth day. Discharged January 13, 1938, as cured. Clinically

TABLE II
COURSE IN CASE 2

Isolation Hospital L. W. MENINGOCOCCUS MENINGITIS White, Female, 10 Years

DATE 1937	SPINAL FLUID			MEDICATION	CLINICAL COURSE
	Cell Count	Differential	Culture	Sulfanilamide Tablets Gr. 5 Each Orally	
10/6 8:00 P.M.	4,600	Poly. 85%	Pos. Men.	50 Grains	Blood culture Pos. 10/7/37 Cond. Critical
10/7 10:00 A.M.	3,250	Poly. 79%		10 grains x 4 hrs.	T.R. 5,550 M, Hgb. 14.2 T.W. 17,650, Poly. 68%
10/8 10:00 A.M.	333	Poly. 70%	Negative	10 grains x 4 hrs.	T.R. 4,900 M, Hgb. 13.0 T.W. 23,900, Poly. 68% Much Improved
10/9				10 grains x 4 hrs.	
10/10 3:00 P.M.	110	Poly. 40%	Negative	10 grains x 4 hrs. Sulf. Disc. at 10:00 P.M.	T.R. 3,100 M, Hgb. 9.25 Appears Well
10/11	89	Poor Stain	Negative	Fe-Amm. Citrate	T.R. 3,150 M, Hgb. 9.25 T.W. 16,000, Poly. 56%
10/14	23	Poly. 20% Lymph. 80%	Negative	Fe-Amm. Citrate	T.R. 3,280 M, Hgb. 9.25 T.W. 13,900, Poly. 62% Well Temp. Norm. 48hrs.
10/22				Total Sulfanilamide 310 grains 20.6 gms. (62 x 5 gr. Tablets)	T.R. 3,210 M, Hgb. 12gms T.W. 10,500, Poly. 68% Blood Culture Neg.

TABLE III
COURSE IN CASE 3

Isolation Hospital J. H., JR. White Male, 5 Months

Date 1937-1938	SPINAL FLUID			MEDICATION	CLINICAL COURSE
	Cell Count	Differential Poly's.	Culture	Sulfanilamide Orally	
12/27/37 7:00 P.M.	2880 Cloudy	95	Positive	30 Grains	Rigid Neck, Fever, Irritable, Temp. 102 Bulging Font.
12/28/37	No Puncture			5 Grains x 6 = 30 75 cc of P.D. Ant. I. V.	Macular Eruption Temp. 99
12/29/37	No Puncture			5 Grains x 6 = 30	Improved General Condition, Temp. 101.4
12/30/37	Blood Tinged		Negative	5 Grains x 6 = 30	R.B.C. 5,200,000, H.G.B. 11.15, 9 M.S. Poly 77, S.L. 23
12/31/37 to 1/4/38	No Puncture No Puncture			5 Grains x 24 = 120 Medication Discon.	Temp. Normal, Neck Flaccid, Playful
1/6/38	107 Clear		Negative		Well
1/13/38	6 Clear		Negative	Total Sulfanilamide 240 Grains	Discharged Home Cured

Case No. 4.—C. E. W., white male, age three years, admitted to Isolation Hospital January 16, 1938, at 8 P.M. Critically ill with signs and symptoms of meningitis.

Discrete macules seen on abdomen and trunk. The initial lumbar puncture cell count was 50,000 with ninety-eight per polymorphonuclears. Direct smear was

TABLE IV
COURSE IN CASE 4

C. E. W.

Isolation Hospital

White Male, 3 Years

1938	SPINAL FLUID			MEDICATION	CLINICAL COURSE
	Cell Count	Differential	Culture	Sulfanilamide Orally	
1/16 8:00 P.M.	50,000	98	Positive	None	Fever 104, Nausea, Vomiting, Headache, Earache, Stiff Neck, Macular Eruption, Upper Resp. Symp. 7 days
1/17 11:30 A.M.	5,325	85	Negative	Gr. 100 9:00 P.M.	Cyanosis Lips, Stupor, R.B.C., 4,400,000, Hgb. 12, T.W. 18,350, Poly. 82, Blood Cult. Neg. (1-16-38)
1/18	1,315	85	Positive	10 Gr. x 6 = 60	R.B.C., 5,300,000, Hgb. 12, T.W. 13,350, Poly. 73, Cyanosis. Eruption Gone
1/19 to 1/20	192 Clear	80	Negative	Methelyn Blue 2 cc I. V. 10 Gr. x 12 = 120	Listless, Nasal Feeding
1/21				10 Gr. x 3 = 30	Methemoglobin 21% of Total Pigment
1/22 to 1/25				10 Gr. x 6 = 60	Cond. Excellent
1/25	25	None		5 Gr. x 14 = 70	No Cyanosis, Sitting up, T.W. 9,500, R.B.C., 4,500,000 H.G.B., 10.3
1/31				Total Grains 440	Discharged. Cured

TABLE V
COURSE IN CASE 5

B. E. W.

Isolation Hospital

White Male, 15 Months

1938	SPINAL FLUID			MEDICATION	CLINICAL COURSE
	Cell Count	Differential	Culture	Sulfanilamide Orally	
1/16 7:00 P.M.	Clear	Sug. 52 Mgm. Chloride 380	Positive	None	Seen in R.W. Fever 104 Upper Respiratory Suspected
1/17	15,920	86	Positive	100 Grains	Macular Petechial Eruption, Stiff Neck, Eye Grounds Normal, Blood Culture Pos., T.W. 29,200, Poly. 64, T.R. 4,410,000, H.G.B. 10.5.
1/18	No Puncture			10 Gr. x 4 = 40	Rapid Resp. 54, Restless, Broncho Pneumonia, Eruption Gone, Resp. 80.
1/19	2,092		Negative	10 Gr. x 4 = 40	Methemoglobin 25 per cent of Total Pigment, Temp. 106, T.R. 3,875,000, H.G.B. 10 Gm. Resp. 68, T.W. 18,500, Poly. 70, Cyanosis Sharp.
1/20	No Puncture			Total Gr. 180	Died 1:45 A.M. Autopsy—No Meningitis Diffuse Bilateral Pneumonia

negative. Culture was positive. One hundred grains of sulfanilamide was given orally at 9 A.M. on January 17 and lumbar puncture two hours later yielded purulent fluid with a cell count of only 5,325. Rapid clinical and serological improvement. Patient discharged as cured on January 31, 1938.

Case No. 5.—B. E. W., white male, age fifteen months, was first seen at 7 P.M. January 16, 1938, in the main receiving ward of the John Gaston Hospital by the house physician of the Isolation Department. Knowledge of an older brother (C. E. W., case 4) ill with meningitis was responsible for a lumbar puncture tap being done. The fluid was clear, only eight cells being counted. On account of fine petechial eruption on all extremities a blood culture was also taken in the receiving ward. The infant was admitted to the Children's Hospital and the next morning when the blood culture

was reported positive meningococcus the patient was transferred to the Isolation Hospital. The respiration was forty-six and bronchopneumonia was diagnosed. There were now signs and symptoms of meningitis and sulfanilamide therapy begun. The meningitis showed rapid improvement. The spinal cell count dropped to 2,092 within forty-eight hours. The chest signs were unimproved. Respiration was seventy per minute and the infant expired at 1:45 A.M. on January 20. Autopsy showed no evidence of meningitis, but a diffuse bilateral bronchopneumonia.

Case No. 6.—J. L. T., white male, age fourteen years, admitted in coma to Isolation Hospital on January 25, 1938, with positive signs and symptoms of acute meningitis. There were scattered petechiae over the trunk, extremities and sclera. The direct smear of the initial lumbar puncture and culture was positive for gram negative

TABLE VI
COURSE IN CASE 6
J. L. T.

Isolation Hospital

White Male, 14 Years

1938	SPINAL FLUID			MEDICATION	CLINICAL COURSE
	Cell Count	Differential	Culture	Sulfanilamide Orally	
1/25	11,200	95	Positive	Grains 100	Ill one week, Headache, Chills, Vomiting, Resp. Symp. Rigid Neck, Pos. Kernig, Positive Brudzinski, Macular Eruption, Skin and Sclera, Eye Grounds, Retinal vessels St. Engorged, R.B.C. 4,080,000, H.G.B. 12.8 T.W. 16,200, Poly. 77.
1/26	No Puncture			Grains 10 x 6 = 60	
1/27	3,480	84	Negative	Grains 10 x 6 = 60	Feels fine, Slight Cyanosis, R.B.C. 3,670,000, H.G.B. 12, T.W. 9,750.
1/28	No Puncture			Grains 10 x 6 = 60	R.B.C. 3,650,000, H.G.B. 11.4, T.W. 7,500
1/29	No Puncture			Grains 10 x 6 = 60	
1/30				Grains 10 x 6 = 60	Herpes Labialis
1/31	87	75	Negative	Grains 10 x 3 = 30	Blood Culture Neg. in 5 days, Clinically well in 6 days.
2/1	No Puncture			Grains 10 x 3 = 30	
2/2	No Puncture			None	
2/3	No Puncture			None	R.B.C. 4,600,000, H.G.B. 11.2, T.W. 6,300, Color Good
2/10	No Puncture			Total Grains 460	Discharged, Cured

diplococci. The spinal cell count was 11,200. Sulfanilamide therapy was started at once and forty-eight hours later, January 27, 1938, this patient was greatly improved. Clinically this patient was well in five days. He was discharged as cured on February 10.

Case No. 7.—T. B., white male, age thirty-eight years, chronic alcoholic. Seen in consultation at Gartly Ramsey Hospital.

Comatose with typical signs and symptoms of meningitis. Cell count spinal fluid 90,000 with numerous gram negative diplococci. Rapid pulse, feeble respiration. Extreme cyanosis. Believed it advisable to give Ferry's antitoxin in view of desperate condition. Transferred to Isolation Hospital, 100,000 units of meningococcus antitoxin given intravenously in 500 cubic centimeters of ten per cent glucose saline. Patient

TABLE VII
COURSE IN CASE 7

T. B.

Isolation Hospital

White Male, 38 Years

1938	SPINAL FLUID			MEDICATION	CLINICAL COURSE
	Cell Count	Differential	Culture	Antitoxin (Ferry) Sulfanilamide Orally	
3/1	90,000 G.R. Hospital	100 Poly.	Smear-Numerous Meningococci	Antitoxin (Ferry) 300 cc. I. V., 100,000 Units 3 P.M. Blood Transfusion 500 cc. 9 P.M.	Comatose-Pos. Kernig-Pos. Brudzinski, R.B.C. 3,790,000, H.G.B. 16 Gm., T.W. 28,600, Poly. 87, Urine 4, Alb., Casts 4, Blood 4, Resp. 12, Skin Petchiae, Extreme Cyanosis.
3/2	11,790 Isolation	100 Poly.	Occasional Meningococci Positive	Sulf. 110 Grains 10 A.M. Antitoxin (Ferry) 300 cc I.V., 100,000 Units 2:30 P.M.	Pulse weak, Cardiac Stimulants, Oxygen tent continuous, Blood Chlorides, 370 Mgs. per 100 cc., N.P.N. 43 Mgs. per 100 cc., Blood Culture neg. 48 hrs.
3/3	8,710	100 Poly.	Positive	Sulf. 20 Grains, Anti- toxin (Ferry) 150 cc. I.V., 50,000 Units 500 cc. Whole Blood	Methemoglobin content of Blood 24 per cent. Feeding by Tube.
3/4	4,800	100 Poly.	Fibrinous Material. Fluid Aspirated Positive	Sulf. 70 Grains, Anti- toxin (Ferry) 150 cc. I.V., 50,000 Units	Pulse very feeble. Still in Coma.
3/5	No Puncture			Sulf. 10 Gr. x 6=60	Patient Conscious. Methem. 22%, 10 cc. (0.1) Methylene Blue I.V. i.e., 1.5 Mg. (K.G. body weight) R.B.C., 3,070,000, H.G.B. 13.8, T.W. 21,800.
3/6	600	100 Poly.	Negative	Sulf. 10 Gr. x 6=60	Diplopia at times, Recognized Relatives.
3/7	No Puncture			10 Gr. x 6=60	R.B.C. 3,740,000, H.G.B. 14.4, Pulse Improved, Blood Cult. Neg. 5 days.
3/8	No Puncture			10 Gr. x 5=50	
3/9	No Puncture			Sulf. Discontinued	
3/10	280	85 Poly.	Negative		Eye Grounds Negative Heart sounds improved.
3/10 to 3/17					Daily improvement, Patient up in chair.
3/20				Total Antitoxin, 300,- 000 Units. Total Sulfanilamide, 430 Grains	Discharged as cured.

placed in oxygen tent. Following day, January 2, 110 grains of sulfanilamide was given orally (catheter) and followed four and one-half hours later by another 100,000 units of meningococcus antitoxin intravenously. The following day on account of sharp cyanosis only twenty grains of sulfanilamide was given. The spinal fluid showed improvement in color and cell count. Fifty thousand units of antitoxin was given intravenously on March 3 and 4. Sulfanilamide therapy was resumed on March 4 and continued until March 9. Patient resumed consciousness on March 5. Daily improvement, and patient was discharged as cured of meningitis on March 20.

RESULTS

The results are summarized in the preceding tables. Certain facts are noticeable. The very decided drop in cell count and the rapid clearing of the spinal fluid in every case cannot be attributed to chance. A quick physical and mental improvement in all cases except one was a constant observation. The one patient, B. E. W. (case 5) was critically ill on admission with symptoms of pneumonia in addition to the meningitis and sepsis. At autopsy the pathological findings disclosed only a diffuse bronchopneumonia. No untoward systemic reactions were noted in any of our cases due to the sulfanilamide therapy administered, either subcutaneously or orally, except a transient methemoglobinemia. This was easily controlled by intravenous methylene blue after the method of Wendell.¹¹

COMMENT

These few cases which have come under our own observation do not permit any definite conclusions. However, if added to the published reports, which now total approximately seventy-four sulfanilamide treated cases with only nine deaths, a mortality of twelve per cent obtains. It seems reasonable to conclude that sulfanilamide therapy is as effective as the meningococcus serum or antitoxin. In addition it has the advantage of eliminating the irritative effect of foreign protein.

CONCLUSIONS

Sulfanilamide has been used in the treat-

ment of six patients with meningococcus meningitis and one with septicemia only. The results indicated by the rapid response to treatment have been satisfactory.

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SULFANILAMIDE IN UROLOGY*

JEFFERSON C. PENNINGTON, M.D., F.A.C.S.,
Nashville

THE PURPOSE of this paper is mainly to report very briefly my personal experience in the treatment of 122 cases of genitourinary infection with sulfanilamide. The cases were urethritis gonorrheal and otherwise, prostatitis gonorrheal and otherwise, arthritis gonorrheal, paraurethral abscess gonorrheal, pyelitis, cystitis, chancroid, and infection after operation on the bladder neck.

We have divided these cases into four main groups: first, those in which the use of sulfanilamide was successful; second, those in which the use of sulfanilamide was unsuccessful; third, those who were intolerant to the drug; and fourth, the miscellaneous group.

In the successful group of seventy-two there were thirty-eight cases of gonorrhea. Some of these were acute anterior infections, some had acute prostatitis, and a few of them had acute prostatitis and acute epididymitis. All cases of gonorrhea were treated the same as if they were not taking sulfanilamide. One of the worst cases with one of the quickest responses was a boy

*Read before the Tennessee State Medical Association, Nashville, April 12, 13, 14, 1938.

twenty-three years old suffering with acute prostatitis and acute epididymitis, severe dysuria and terminal hematuria. He had to void almost constantly and he could hardly leave the bathroom. Each time he voided he seemed as though he was passing scalding water, and he had lost considerable weight. He was given sulfanilamide and methylene blue and sent home with instructions to stay in bed with an ice bag under the scrotum. I told him to come back to the office in one week. But three days later he showed up in the office, saying that he felt so good there was no use to stay in bed any longer. All of the symptoms had disappeared, the soreness had gone out of the epididymis and he no longer had dysuria, was not passing any blood, the urine was clear with the exception of a few shreds in the first glass.

It is my opinion that without sulfanilamide this boy would have been in bed at least a week, and then it would have taken another week for this boy to get in the condition that he called himself feeling good.

We had a thirty-year old woman come in with gonorrhea who had been under treatment here and yonder for over a year. She gave a history of having had recurrent attacks of salpingitis and having to stay in bed two or three weeks at a time. At this time she had a fever of 103 degrees and was extremely tender over the region of each tube. We put her on sulfanilamide and methylene blue and hot douches and sent her to bed. In one week she came back to the office saying that she was well. We were unable to find any evidence of gonorrhea anywhere. We kept her under observation at intervals for a period of three months and were never able to find any evidence of a recurrence.

Another white woman, age twenty-eight, came in with a paraurethral abscess which is the only one I have ever seen in the female. Skene's glands were badly infected and heretofore we had treated Skene's glands infection by injection of antiseptic substances through a blunt needle. Also we had burned them with actual cautery, we have kept them saturated with boric

acid and in spite of all this treatment they lingered along without much change for weeks. Some of them became discouraged and went elsewhere for treatment because they felt that they were getting no better. In this case the abscess was opened and the patient given sulfanilamide and methylene blue. In three weeks' time she was well.

The shortest time a gonorrheal case got well was one week. We had two patients who were apparently well in this time. The longest time was three months. In those lasting three months, we found that if the sulfanilamide had any effect at all, it removed the acuteness and made the patient much more comfortable during the duration of the disease. It has been my observation that sulfanilamide takes effect much quicker and better everywhere than it does in the anterior urethra.

Many of these cases of prostatitis and epididymitis became free of these two symptoms, but would continue to have a discharge from the anterior urethra. I think we have hastened the effect of the drug in the anterior urethra by restricting fluids and requesting the patient to void every few minutes. It seems that this frequent passage of urine which is saturated with sulfanilamide over the urethra hastens the destruction of the infection. I would not be willing to treat any case of gonorrhea with sulfanilamide alone. Besides this is not good business.

In the successful group there were twenty cases of pyelitis, nineteen of which were caused either by colon bacillus or staphylococcus. One was caused by bacillus paratyphoid B. In the cases where there was obstruction the obstruction was removed, then the patient put on sulfanilamide. While they were taking the drug, they underwent the usual treatment such as lavage of the kidney pelvis and bladder irrigations. Here again the difference which sulfanilamide made was in the speed of the cure. In times past we have treated such patients weeks and months with apparently no particular changes. In this particular group of twenty cases the response was rapid, the

time of recovery in these pyelitis cases varied from one week to fourteen.

The case with bacillus paratyphoid B was a chronic pyelitis with acute exacerbation in which we could never find any organisms on culture other than paratyphoid bacillus B. She had been under treatment more than a year. She could get nothing more than temporary results. We tried all kinds of urinary antiseptics such as urotropin, pyridium, caprokol, and mandelic acid. Each time she had a flare-up we would lavage the kidney pelvis with seemingly good temporary results. During the time of this treatment the patient never went longer than six weeks without an acute attack. Three months ago we gave her sulfanilamide and since that time she has had no acute attack and the urine has been free of pus and bacteria on each examination.

In this group of successful cases we had eight cases of nonspecific prostatitis. These had urethral injections and prostatic massages as we had done before sulfanilamide came along. Sulfanilamide seemed to speed up their recovery because heretofore such cases had gone about three months to a year or more. Of these eight cases, the shortest time for recovery was two months and the longest time three months.

In the cases being reported there were two cases of chancroid. The first one had a four-plus Wassermann and we treated the syphilis intensely for a month with no evidence of disappearance of the lesion. As a matter of fact, it was spreading all the time and eating deeper. For the sake of experiment I discontinued the antiluetic treatment and gave him prontosil by mouth and prontosil intramuscularly. In seven days the chancroid was entirely healed.

The second case had had the chancroid for eight weeks, during which time he had visited every clinic in Nashville. He had had six dark fields done and four blood Wassermans, all negative. He first came in on Monday, at which time we gave him five cubic centimeters of prontosil in the hip and a prescription for prontosil to take by mouth. About this time the chancroid covered about one-third of the surface of the penis. He came back on Wednesday

and got another five cubic centimeters of prontosil in the hip. At this time the chancroid was scabbed over. On Friday he came back and the scab had fallen off and the lesion was apparently well. For good measure I gave him another five cubic centimeters of prontosil in the hip. He was told to return if any further symptoms recurred. It has been three weeks now and nothing has been seen of him. Here we seem to have cured a chancroid in five days.

There were two cases of gonococcic arthritis. One was in the left shoulder. After one week on sulfanilamide the arthritis was gone, but recurred when sulfanilamide was discontinued. He did this four times and finally he was kept on the drug three weeks continuously and there has been no recurrence in three months. He had prostatic massages all the way through.

Another had gonococcic arthritis in both feet so severe that he had to cut his shoes into shreds in order to wear them, and then he could hardly walk. In six weeks he was wearing uncut shoes and was free of all foot symptoms.

There were two cases of staphylococcic urethritis successfully treated. One was well in two weeks. The other reported for his second visit on the day he was told to report, and when he came in he said, "You told me to come back today, but there was not any use in it, for after I took the first dose of medicine the discharge disappeared." He had no discharge at this time and the urinalysis was negative. I do not know whether or not to believe this stuff myself, but it seems to have happened. I am telling you about it as I saw it.

The Unsuccessfully Treated Group.—In this group we have placed those patients who tolerated sulfanilamide and took enough of it to demonstrate that it would not do them any good. There were six cases of colon bacillus pyelitis. The usual procedures for treating colon bacillus pyelitis were employed and in addition to this sulfanilamide was given and the sulfanilamide had no effect. These cases pursued the course ordinarily expected with the or-

dinary form of treatment without the use of sulfanilamide.

There were four cases of colon bacillus prostatitis. In addition to sulfanilamide they were given the usual treatment consisting of urethral injections, prostatic massages. In spite of all that was being done to them and all that was being given them they strung along over a period of months and one of them is still stringing.

There was one case of staphylococcus prostatitis. Sulfanilamide gave no results.

There was one case of staphylococcus epididymitis in which sulfanilamide had no effect.

There were twelve cases of gonorrhea of the ordinary garden variety. One of these cases took over 300 tablets of sulfanilamide in two months' time and the gonorrhea continued just the same. One man straggled into the office with a pocket full of sulfanilamide tablets, which he said his druggist had sold him. He had been taking them according to the druggist's directions for seven weeks and had finally concluded, he said, that they were not good for him and he wanted to do something else. During these seven weeks he had lost thirty-five pounds in weight, had no appetite, and his gonorrhea was severe. The sulfanilamide was discontinued and he was put on ordinary injections of urethral medications. For some peculiar reason this fellow got well with eighteen treatments, which extended over a period of three weeks, and since that time has been checked frequently without any evidence of gonorrhea being found. It would seem that in spite of the fact that sulfanilamide alone did not get rid of his symptoms, it must have done something to him in the way of building up his resistance or in some other way because it is the only case of gonorrhea that we ever had to get well with as few as eighteen treatments.

The Intolerant Group.—In this group there were twelve cases which were: colon bacillus pyelitis, seven; staphylococccic pyelitis, one; staphylococccic prostatitis, two; gonorrhea, two. One of these patients had severe chills every time she took sulfanilamide. We had her to try and try again at

such intervals and under such circumstances that we proved the sulfanilamide to be the cause of the chills. It made another patient wild, she went completely out of mental balance every time she took it. One patient stated that when she took a dose of the drug for a few minutes she felt very well, then she became elated the same as if she took morphine. About thirty minutes after the dose was taken a severe headache began that not even morphine would relieve. We also repeated this experience at such intervals and under such circumstances as to convince us that sulfanilamide was the cause of the headache.

One woman was found lying in the bathroom unconscious and blue on the second day after beginning to take sulfanilamide. We did not care to repeat this experiment. One patient said that she ached all over and could not sleep at night after taking the drug. One patient who tried several times to take sulfanilamide found that each time she took it, she became so severely nauseated she could not even drink water. A university student to whom we gave it complained that while he was taking it he could not concentrate, and therefore could not do the work required of him in school. Two patients had an elevation of temperature. One 102.5 and the other 103. These temperatures lasted three or four days after discontinuing sulfanilamide. Some of these patients had skin rashes, in some of them it appeared after being exposed to sunlight, and in others it appeared when not exposed to sunlight. We had one who showed a sulfanilamide rash which was one of the worst rashes of any kind I have ever seen.

While treating a patient one day he told me about a friend of his who had gonorrhea and who had supposedly gone crazy from some kind of drug he was taking. I advised him to take his friend off of the drug and bring him in when he had recovered to his normal state of mind. In a few days he brought him in, and the patient's story was about like this: That a druggist sold him a large quantity of sulfanilamide tablets for ten dollars and guaranteed a cure. He took these tablets according to directions

for five weeks. He said that in his memory the whole five weeks were a total blank except for one instance. He remembered finding himself walking in the middle of Fifth Avenue in Nashville in the midst of heavy traffic. He does not know how he got from his home which was more than forty miles from Nashville, nor does he know why he went into Fifth Avenue, nor does he know how he got out of the street or how he got home or when he got home. When he came to the office he had gonorrhea everywhere a man could have it except in his eyes, and it was in a very severe form. Contrary to the other man who had been saturated with the drug he did not respond to treatment. It took him eight months to get well.

Miscellaneous Group. — In this group there are twelve. One a nineteen-year-old boy with a staphylococcal pyelitis, who was made so sick by sulfanilamide that he went to bed with chills and fever and intense nausea. In spite of these untoward symptoms he stuck to his medicine and was well in two weeks. We had one man who tolerated neither prontosil nor sulfanilamide by mouth because of headaches and chills and fever, but he could tolerate prontosil in the hip. After each injection of prontosil there was a marked improvement in his symptoms, but he was a traveling man and was not seen enough for any definite conclusion to be drawn. Another in this group was a woman with severe gonorrhea who was made so dizzy by sulfanilamide that she could not raise up out of bed. She was treated without sulfanilamide in the usual manner. The results were not encouraging and we decided to put her back on sulfanilamide in small doses not knowing the doses she had before. She improved very rapidly and was well in four weeks. The others in the miscellaneous group were men who tolerated the drug well, but they had either stones in the kidney, or recent operations on the bladder neck. They derived no benefits from the drug.

Contrary to these unfavorable symptoms we had one man in the successful group whom the drug elated. He said, "Doctor, I

would rather have a bottle of those pills than have a pint of whisky."

SUMMARY

According to this group the percentages were as follows:

Successful, fifty-nine per cent.

Unsuccessful, 29.5 per cent.

Intolerant, 9.8 per cent.

Miscellaneous, 9.8 per cent.

When this summary is condensed we have fifty-nine per cent benefited by the drug and forty-one per cent not benefited.

1. Sulfanilamide seems to have less toxic effect when given in conjunction with methylene blue.
2. It is more effective when fluids are restricted.
3. It fixes some cases and they will remain at a standstill or get worse until the drug is discontinued.
4. Some of the complications are chills and fever, cyanosis, disorientation, severe headaches, anorexia, nausea and vomiting, exhilaration, general malaise and skin rash.

SULFANILAMIDE IN OTOLARYNGOLOGY*

EUGENE ORR, M.D., Nashville

I THINK IT A VERY wise move on the part of our program committee to have the question of sulfanilamide brought before this body. There is a real danger that the use of this drug get out of the hands of the medical profession and become an over-the-counter prescription proposition. Only recently I have seen two individuals who were taking it for bad colds. In one it had been prescribed by a physician, in the other it had been suggested by a friend.

In evaluating sulfanilamide in conditions met with in an ear, nose, and throat practice I have drawn upon the available literature, the experience of my professional friends, and my own rather limited experience.

However skeptical one may be as to the

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dependability of the "printed word," one can hardly question the value of sulfanilamide against infections caused by the hemolytic streptococcus, the meningococcus, and the gonococcus. Infections caused by the streptococcus viridans and the staphylococcus aureus are not effected by its use, therefore, when its use is being contemplated one should be certain that the offending organism is one in which its use may be effective.

Not much has been said concerning its use in chronic infections. Dr. Shambaugh reports the case of an ear which had been discharging profusely for four months in spite of a mastoid operation. There was X-ray evidence of a coalescent petrositis. The ear became entirely dry within twenty-four hours after the administration was begun (ten grains three times a day).

I had been very hopeful that this drug would prove beneficial in eliminating or materially reducing streptococcus carriers. I was disappointed in reading the report of Drs. Hogue and Bailey. They selected 183 patients convalescing from scarlet fever; 125 received the drug and fifty-eight served as controls. Sulfanilamide was administered during the last week of a four weeks' quarantine. Their conclusions were that, "irrespective of any value sulfanilamide may have in the treatment of acute streptococci diseases, it is not effective in the eradication of hemolytic streptococci from the noses and throats of patients with scarlet fever at the end of a four weeks' period of quarantine." The amount given was thirty grains daily. At the present time I believe this would be considered inadequate.

The most frequent reference to its use in ear, nose, and throat literature has to do with streptococcal meningitis of otitic origin. I am sure that every one doing otology has been impressed with the great number of streptococcal meningitis cases reported as cured by the sulfanilamide therapy. In some series, as high as eighty per cent have been reported as cured. One must bear in mind the fact that prior to the recent introduction of sulfanilamide the mortality in this, the most dreaded compli-

cation of mastoiditis, was around ninety-seven per cent. It must be emphasized, however, that in this condition adequate drainage of the focus is still considered of paramount importance. There are individuals in whom the course of the disease is apparently not influenced by the use of the drug. A case in point is one of my own. An extensive mastoidectomy was done. The administration of sulfanilamide was instituted as soon as meningeal symptoms developed, even before a report on spinal fluid was obtained. He succumbed uninfluenced by the use of the drug. This was a post-scarlet fever mastoid and cultures showed a hemolytic streptococcus.

Cases of acute mastoiditis have been reported as having been cured by the use of the drug. However, I doubt the sanity of any one who would disregard the well-known indications for mastoid surgery beyond a reasonable safety limit. Sulfanilamide should be used, in conjunction with, and not to the exclusion of accepted medical and surgical procedures.

In streptococcal blood stream infections secondary to mastoiditis sulfanilamide apparently has little effect. Here convalescent serum is to be preferred. I know personally of one case of hemolytic streptococcus mastoiditis complicated by a blood stream infection in which sulfanilamide had been administered from the beginning of the middle ear suppuration.

Cases of severe hemolytic streptococcal throats have been reported in which sulfanilamide acted like magic. Personally, I have had two such cases. In others there was no response.

The toxic effects of this drug are usually mild and transitory. However severe effects occur with sufficient frequency to warrant one in saying that a patient to whom this drug is administered should be under the daily observation of his physician. Certainly the sale of this drug should not be allowed except on a doctor's prescription. Among the more serious complications being reported are methemoglobinemia, sulfhemoglobinemia, acute hemolytic anemia, agranulocytosis, and optic neuritis. Since so few cases of serious toxic effects have

been reported in detail in the literature it may be of interest to report a case seen by my associate, Dr. Kennon.

Case report: R. E., white man, age thirty-two, married. Was first seen on March 16, 1938. His previous medical history has no bearing on the present condition. He was admitted to the hospital on account of sore throat and high fever. The history of the illness was that he had a chronic gonorrheal urethritis and had been given sulfanilamide over a period of a week. The sulfanilamide had not seemed to influence the urethritis so it was discontinued. Five days after the use of the drug had been stopped the patient developed slight fever and a sore throat. The soreness of throat increased in severity and on the day of admission he developed marked hoarseness and had a temperature of 104 degrees Fahrenheit. He was delirious most of the day. On admission to the hospital his temperature was 105 degrees, pulse 120, respiration twenty-eight. Physical examination except for the throat and urethral condition was essentially negative. There was a rattling sound of mucus in throat. Patient was hoarse and talked as if his mouth was full of mush. There was an ulcer on the lower lip at the muco cutaneous junction which looked like an ordinary ruptured herpetic vesicle. There were four small ulcers on the posterior pharyngeal wall. These ulcers were approximately circular. They were covered with a yellowish white exudate, surrounded by a hyperaemic zone. The mucous membrane elsewhere was not abnormally red. Smears and cultures showed the bacteria usually found in the throat. The epiglottis was red and so swollen that it was impossible to see the intralaryngeal structures. The patient was not dyspnoic and his color was good. There was no history of cyanosis. A leukocyte count was ordered and the report of less than fifty white blood cells was returned. Examination of blood smears showed an occasional degenerated white blood cell.

A transfusion of 500 cubic centimeters of citrated blood was given at four o'clock A.M. of the day after admission. About five A.M. the patient became so very dysp-

noic and cyanotic that a tracheotomy was done. He was given pentnucleotide, ten cubic centimeters hypodermic every six hours (administration begun about two hours after admission). A stimulating exposure of X-ray over the long bones was given on the night following admission. A second blood transfusion of 250 cubic centimeters of citrated blood was given in the afternoon of the day following admission. The leukocyte count following the first transfusion was 1,100, with two per cent polys. A second white blood count six hours later was 600 with no polys. The patient got steadily worse though no marked change was noticeable in his throat. His temperature by rectum varied from 106 degrees to 107 2/5. He died at twelve o'clock noon on the second day following admission to the hospital. Permission for a post-mortem could not be obtained.

In conclusion may I emphasize the importance of determining the nature of the offending organism as early as possible. Sulfanilamide is proven to be a most effective aid in the treatment of streptococcic meningitis and other serious infections. Its mode of action is as yet not definitely determined and its dosage not firmly established. It is a drug not without danger and for the present at least should be reserved for the severer infections and then used in conjunction with and not take the place of well-recognized medical and surgical procedures and always under the continuous observation of a physician.

DISCUSSION

DR. JOHN M. LEE (Nashville): Mr. President and Gentlemen of the Society: I think we are particularly fortunate in having this most interesting report on the use of sulfanilamide in meningococcic meningitis by Dr. Levy, who has had an unusual opportunity to study a large number of cases of this disease treated under different methods.

I cannot claim the wide experience he has had. My experience is very limited with this particular medication in this disease, and my patient died several hours after we saw him, which was hardly a test of the drug.

We are justified, I think, in concluding with Dr. Levy that sulfanilamide is a very valuable adjunct in the treatment of this disease. As he brought out in his paper, apparently certain strains of meningococci do not yield to the effect of the

drug as well as others. For that reason also we do not depend on this alone. As he pointed out in his paper, it was found experimentally if the drug was used in conjunction with antimeningococcic serum the effect seemed particularly good. That effect I have observed in scarlet fever.

We do not know yet the limitations of the use of this drug, and until we know a little more about it I think all of us would do well to proceed cautiously.

Children apparently stand the drug very well. In this particular disease there is the advantage in this preparation that it overcomes the technical difficulties rendered necessary by intraspinal treatment. Infants particularly are hard to perform lumbar puncture upon, and in many instances no doubt sulfanilamide will be very useful in meningitis at this age.

The use of the drug alone may be resorted to in emergency in a disease as serious as this, but where possible all cautions should be followed that were observed in Dr. Levy's study.

We believe that this is the first report of the treatment of this disease presented to this society, and we think Dr. Levy should be congratulated on his excellent paper, on the splendid results that he has obtained, and we believe that the results obtained justify further study of this particular medication.

DR. DEXTER L. WOODS (Waynesboro): Mr. President and Members of the Association: The paper given us by Dr. Pennington on sulfanilamide in urology, I think, has been very instructive as well as interesting. In the cases he reported some are outstanding, are almost miraculous. I speak to you from the viewpoint of the general practitioner and of course cannot give you the reports that Dr. Pennington gave. In the groups he gave us that responded successfully to the treatment there are some outstanding features which I think we should bear in mind which perhaps explain some of our failures, at least mine, in using sulfanilamide when it first began to come out in these cases, especially in gonorrheal infections.

I noted that Dr. Pennington used sulfanilamide along with his usual treatment what you might term the conventional treatment previous to the use of this drug. This, of course, has proven its benefit by his case reports and of course proves that sulfanilamide was the outstanding factor in giving him speedy recoveries in some of his cases. That is another point to bear in mind—the speed with which some of these patients recovered. In my experience and to my knowledge I have never seen any recovery with that remarkably short duration of the disease.

Also we should consider the variety of cases that he mentioned, of urinary infections and the specific diagnosis he gave us; also the relief of the pain and discomfort, which, of course, was brought out with the speed in recovery of the patients.

Two main things are very important that he mentioned to us in using this drug, especially in gonorrheal and urethral infections. Restriction of the fluids is one. I think it has been customary in the past, at least in my experience, usually to force fluids in gonorrheal infections, and of course by doing so with sulfanilamide we lower or diminish the concentration of the sulfanilamide in the blood stream, which has been proven by some workers should be around ten milligrams per 100 cubic centimeters of blood. Thus by restricting fluids he got his concentration sufficient to give his bacterial action without increasing the drug to too great doses. The other thing he brought out that was very important was putting the patient to bed. That is a thing that I think is extremely important. I must confess to you that in some cases I treated I think that is the reason I did not get results; I did not put them to bed. I thoroughly agree with him on that statement, that all of them should be put to bed. I do not think any patient taking sulfanilamide under the recognized treatment we are giving should be up and about.

In regard to his unsuccessful group, he gave us a similar diagnosis to those in the successful group. The reactions were very unfavorable in some cases: vertigo, dizziness, headache, even high fever, chills in some, severe headaches, and then the skin rash which he showed us.

I would like to ask the doctor what he treated these patients with other than discontinuing the drug for relief of their headaches and fever and so forth, because we have been cautioned about using so many different drugs with sulfanilamide, especially drugs with the sulphur radical.

In regard to the skin rash that varies. The one Dr. Pennington gave us simulated scarlet fever or general rash. I had two cases, one of which simulated very much an ordinary case of scabies, just a macular rash and not coalescent. The other was in a young lady whose rash was similar to the one he showed us, but only confined to the upper extremities and the neck.

It has been mentioned by some that perhaps the effect is the photo-effective effect of sunlight on these cases. I could not see anything to that. It may be so.

He mentioned the other group which did not tolerate the drug at all. He mentioned a case of psychosis and a case of coma, which, of course, brings us to the fact that this is a dangerous drug we are dealing with and should be given very cautiously and with very strict attention. I think, as I mentioned previously, that the patients should be observed very, very closely.

He obtained no results from the stone and surgical cases. His results came out about fifty-one per cent good, and if I remember correctly, forty-nine per cent not so good, which is approximately a fifty-fifty proposition with sulfanilamide.

Dr. Pennington said that it was hard to believe

some of the things he told us. I have a case I would like to report to you that it is hard for me to believe. Whether sulfanilamide was responsible I do not know. A man forty-eight years old, an epileptic, had been for twenty-seven-odd years in that condition, by his history and by case records of previous physicians and hospital records. I have known him eight years. He came to me with acute gonorrheal urethritis, a typical case. I gave him sulfanilamide, and after he took about eighty-five-grain tablets he became so dizzy that I had to discontinue the drug. Then I put him on routine, conventional treatment of irrigation and stopped the sulfanilamide. He dragged along for two or three months like most of them do. About the third month that I was treating him he requested I give him some more of the sulfanilamide. I asked him why. He said it had stopped his "fits." He had been having epileptic attacks two or three times a week during the spring and summer, and during the winter two or three a month. During the time I treated him he reported to the office almost every day during a three-month period and had no epileptic attack or "fits." Whether the psychic effect of the gonorrhea was sufficient to stop them I do not know.

It may be explained by the fact that was brought out by Marshall that sulfanilamide taken in the gastrointestinal tract in sufficient doses soon penetrates or becomes impregnated in all the fluids of the body. Of course that would mean the cerebrospinal fluid and others. This may explain it all right.

I think we should be very careful about prescribing the drug. We have something that is of great benefit to us, I think, to the general practitioner as well as to the specialist, but I think it is a dangerous drug and we should handle it very cautiously, and I think its being prescribed by druggists should be condemned. I have requested that our druggist do not prescribe it unless I write the prescription. I have found they use it for almost everything.

DR. ROBERT E. SULLIVAN (Nashville): Mr. President and Members of the Association and Visitors: I think Dr. Orr has given us a very excellent résumé of the administration of sulfanilamide in otolaryngology. This, I believe, is true in almost any new drug. In some cases we see of sepsis of otitic origin, meningitis complicating mastoiditis—we are apt to swing a little bit too far in our enthusiasm in the use of any new drug. I personally feel that this particular drug has great value if used judiciously, but it is certainly not a cure-all or panacea for all of our various infections. The old saying—be not the first to try the new nor the last to give up the old—might hold good in administering sulfanilamide. Personally, I do not feel that enough time has elapsed to take stock in the administration of sulfanilamide except in certain very specific types of infections like

streptococcus hemolyticus, the beta type, and the meningococcus or the gonococcus. In these we know that this drug has unquestionable value. By accepting this drug as a considerable aid in these three types of infections I think we will accomplish more than just giving it, as Dr. Orr mentioned, in the ordinary bad cold or in any infection of the nasopharynx.

Over a year ago most of us were giving this drug, but without much knowledge of how much to give or for what to give it or what might happen if we did give it. Now we know from reading many reports that it is a very useful drug and gives very satisfactory assistance in specific infections. I mean by specific infections, the three types that I mentioned.

I feel that certain dangers must be stressed. Do not become too self-satisfied with it. It can be used, but do not overlook other necessary and well-proven things such as the elimination of diseased foci or giving adequate drainage. In other words, if you have an acute mastoiditis, do not depend upon this drug alone. If you have surgical indications, do surgery; also transfusions, either whole blood or convalescent serum, that is mostly in blood stream infections of otitic origin. There is another thing, that patients with blood stream infections, even though they are getting transfusions and sulfanilamide, must also be fed regardless of temperature, I mean as long as they will tolerate food, and it should be forced feeding if necessary. We know very little of the mode of action of this drug. We do recognize certain unfavorable signs, as nausea, vomiting, dizziness, cyanosis, rash, and the blueness besides the cyanosis. I feel if a daily blood count is made, or at least every other day, you will be able to note early changes in the blood.

A year ago I had no feeling of fear about administering this drug, but I doubt now if I would administer it unless the patient was in the hospital where I could keep a daily check on the blood. That may be entirely too cautious, but I would rather know something about the condition of the patient's blood. I certainly would not be guilty of administering sulfanilamide without some check on the patient's general condition and blood picture.

In a recent case of mine a daily blood count was made. In this particular case of sepsis, blood stream infection from a mastoiditis, the patient had a rather high leukocytosis, so we felt a little more comfortable about that. There was no destruction or lowering of the white cells. It is unfortunately true that once a destruction of the blood elements begins you may be helpless in combating this condition. To discontinue the drug may help, transfusion assists, but they do not always restore a normal blood picture.

If there is marked destruction of the white cells you are rather in a hopeless position, as, for example, the case Dr. Orr reported of Dr. Kennon's. I think the white cell count was probably down to

less than fifty. Once it reaches a level as low as this what can you do? You are absolutely helpless.

Dr. Orr mentioned streptococcic carriers. I agree with him that the reports positively show that sulfanilamide has very little value in eradicating streptococci in these people, but it has great value in the treatment of scarlet fever. As to how sulfanilamide acts we do not know. The general impression is that it retards the multiplication of organisms sufficiently to permit the normal defense mechanism of the body to destroy them. That is about as much knowledge as I can get as to the action. More than that, we have very little knowledge at the present time. If we accept the drug as being more or less specific for some infections and give it without feeling that it has definite dangers, we will not go far wrong, but I certainly would not advise it for anything and everything, as, for example, for ordinary acute rhinitis, as was mentioned before.

Dr. Orr mentioned a case of mine where the treatment was administered from the onset of acute otitis media. This was a child that had an acute middle ear. There was a prompt incision of the drum with administration of sulfanilamide. This patient developed a hemorrhagic type of mastoiditis, proven by culture at the time of operation—blood stream infection, streptococcus hemolyticus beta. Throughout the child's illness she had had considerable amounts of sulfanilamide, not small doses of five grains three times a day, but much larger doses than that; yet she developed a blood stream infection of the same type she had in the middle ear, and I think if we had depended entirely on this drug and had not gone ahead with the surgery as it was indicated, and with the use of convalescent serum, whole blood transfusions, forced feeding, and things like that, we would have lost the child. Fortunately, we did not.

We did not know until recently that sulfanilamide would cause agranulocytosis, and the essayist mentioned one case in his practice. In reviewing the literature we are now able to account for six other cases in various sections. That alone is enough to chill me quite a bit on the indiscriminate use of this drug.

DR. G. H. BERRYHILL (Jackson): Mr. Chairman and Members: In my opinion, Dr. Orr and Dr. Sullivan have said about all there is to be said about the use of sulfanilamide in otolaryngology. However, there are two or three things that impressed me to which I might add my little say.

There is no doubt that in sulfanilamide we have a new drug of undoubted effectiveness in certain types of infections. From the reports of all the available literature it seems that in this drug we have almost a specific for the beta hemolytic streptococcic infections. However, we must all agree that sulfanilamide therapy is yet in the experimental stage. Only by elaborate laboratory checks are we able to determine the individual

dosage, and we possibly do not know all of its ill effects. However, we all know of the possibility of toxic reactions from this drug. For that reason I would like to stress and add emphasis to Dr. Orr's warning against its indiscriminate use.

Personally, I have experienced no such tragic results as he describes in the latter part of his essay, but we have had cases where undoubtedly the continued use of the drug would have had a very bad effect. In my experience the chief toxic effects have been the milder ones, such as delirium, skin rash, dizziness, and nausea, and it has been my experience that these effects are far more frequent than the literature would have us believe. My experience may be unique, but I am convinced without using any figures that the drug is poorly tolerated in greater or less degree by about forty per cent of patients. I wonder if any of the rest of you have had anything like the same results.

I felt from the beginning of the use of this drug that if there was an infection in which successful use was desired it would be in the pneumococcic ear, which is most often the forerunner of pneumococcic meningitis. I recently had such a case in a three-month old infant, and despite opening the ears and sulfanilamide therapy, meningitis developed. The ears, however, cleared up and no mastoid developed. Treatment was continued with more sulfanilamide combined with pneumococcic type serum. The child died, but we did keep it alive for three weeks after meningitis was discovered to have developed, and my colleague on the case, a pediatrician, assured me that this is twice as long as they usually live, and he himself has treated successfully two cases of this type of meningitis with sulfanilamide. However the two who survived had two things in their favor: they were older children, eight and twelve years, and they were charity patients. In rechecking the literature of a group of clinics on their experience, I find quite a variation in the successes reported in pneumococcic infections. Some seem to get as high a percentage of results in this as in streptococcic infections, while others report practically no success at all from its use. However, I am of the opinion that it is indicated and should be used in all cases of this type.

We have used sulfanilamide in some more obscure conditions, that is, where the offending organism was not determined. There were two cases of parotid gland infection, both adults. Epidemic parotitis was eliminated by history, calculi eliminated by X-ray, no drainage from Stensen's duct, glands swollen, hard and painful. One had a general sepsis with multiple septic skin ulcerations, while the other had an acute middle ear. Both had high fever. The drum was opened in the middle ear infection. Within forty-eight hours after the beginning of sulfanilamide in both cases the fever was normal, general condition better, and the glands much smaller and less painful. The dosage

was decreased, and in seven days all symptoms had subsided. We assumed it was a streptococcic hemolytic infection.

The last thing I should like to say is that we have had good results in the treatment of septic throats with this drug, better than with other types of treatment, in that the severe symptoms subside more readily and the duration of the disease is much shorter. I believe that in our

field we shall find that the best use of the drug is in infections of the throat and ear, where the coccus type of organism predominates, especially the streptococcus and pneumococcus Types I and II.

In conclusion I should like to say that I have enjoyed Dr. Orr's paper very much, and I am sure that we all feel indebted to him for his masterly presentation of a subject of absorbing interest to us all.

PNEUMOTHORAX WITH CASE REPORTS*

RUFUS SMITH, M.D., Knoxville

WHEN WE STOP to consider the amount of movement that takes place in a normal lung, and compare that with the increasing amount in a diseased lung, we can then appreciate the importance of rest for that diseased lung. You can readily see that in inspiration the greater force is away from the diseased portion of the lung. Unless this is taken care of, those tissues do not have an opportunity to heal. This objective can be attained by the use of artificial pneumothorax, which after all is nothing more than "splinting" a diseased lung with a cushion of air.

Pneumothorax is not an idea of our own for treating lung conditions, for we find that Hippocrates opened the chest wall in the treatment of lung abscesses. In 1692 Purmann advised incision of the chest wall for pulmonary hemorrhages. Boglinus in 1710 advised incision of the pleura for treating tuberculous cavities. In 1726 Berry of Dublin also suggested drainage of pulmonary cavities. James Carson in 1821 believed that tuberculosis to be cured had to be done so with mechanical means. Among others were Stopes in 1837, Toussaint in 1880, John B. Murphy and Forlanini in 1888. To the latter we owe much of our present-day knowledge of pneumothorax as he was undoubtedly the pioneer of our present method. We should not overlook Dr. Mary E. Lapham's work right here in the South, as she was probably the first one to use it in this section of the country. For the past twenty years it has become a popular and useful treatment in pulmonary conditions.

Up to this time I have not mentioned under what conditions, except to say pulmonary diseases, pneumothorax might be used. The first one is pulmonary tuberculosis, and there are varied opinions as to the best time to begin such treatment. Let me say here that all cases of tuberculosis cannot take pneumothorax. The ideal case

of course is one in which there is a unilateral lesion, and which is not of too long standing. The time to begin, I think, is early, whether cavitation is present or not. I know I will hear a great many objections to this, but in my experience those cases that get an early collapse are offered the best chance for recovery. We must remember that tuberculosis is a progressively destructive disease, and you might have your patient on the strictest regime, and at the same time your disease has been spreading and even cavitating. I have given above a classical or textbook case on which to do pneumothorax, but it is not often we get cases like this, and we find trouble in both sides, being more marked in one side, and in such cases I believe it advisable to collapse the side in which there is the greatest trouble, and very often we will see marked improvement in the noncollapsed side. Sometimes we use pneumothorax to control pulmonary hemorrhages. It is sometimes difficult to be definitely sure about which side the bleeding is coming from, but any previous knowledge of the case along with your chest X-ray will help solve this problem.

Pneumothorax has been used in the treatment of pneumonia, in which one lung is involved. Here the lung is kept collapsed only a short time. I have not had any experience with this type of treatment in this disease.

If pneumothorax is done early in lung abscesses one can expect good drainage and rapid obliteration of the abscess cavity. In this condition it has to be done early, as adhesions form more rapidly than in tuberculosis, prohibiting the collapse of the lung and adding complications to inducing the collapse.

Bronchiectasis is another pulmonary condition, which, if unilateral and not too long standing, can be greatly benefited by collapse therapy. In this condition I do not believe that we can expect to permanently

*Read before the Tennessee State Medical Association, Nashville, April 12, 13, 14, 1938.

obliterate the "sacs and pockets in the bronchi," but we can keep enough pressure on these places, so that sputum will not accumulate here, and in this way greatly benefit our patient. However, in this group of diseases, we nearly always find bilateral bronchiectasis, or else it has been going on for years, and the lung has been adhered to the chest wall.

There are some contraindications to pneumothorax, but like all things in medicine, there is no hard and fast rule to guide us. Perhaps there are only two real types of tuberculosis in which it is definitely contraindicated, that is, a far advanced bilateral case with multiple cavitations, and that type of tuberculosis which we term chronic fibroid. Patients with asthma or any complication in which they are dyspnoeic do not tolerate pneumothorax very well, also those with tuberculous enteritis or laryngitis.

There are several types of instruments made for giving pneumothorax, but the principle of all of them is the same. They consist of a water manometer connected to two bottles by rubber tubing in such a way that when one is raised, being full of water, it forces the air from the other into the chest.

The technic of administering pneumothorax is not a very difficult one after the first refill, but I wish to stress here that it should only be done by someone who has had special training, as there are many difficulties to encounter, even to those who have had this training. For the first refill, I give my patient morphine grains $\frac{1}{4}$ and atropine grains 1/150 about thirty minutes before attempting the collapse. I always try to have my patients go to a hospital for the first two or three refills, however, circumstances do not always permit this. When I am ready to commence, I have my patient lie on the good side, cleaning an area somewhere in the fifth, sixth, or seventh interspaces, usually in the back or midaxillary line in female patients or about the anterior axillary line in male patients. I use different sizes and lengths of needles, going completely to the pleural space. Then I take a needle which has a blunt point, with the opening on the side, and an old syringe in

which the plunger is loose, filling this with novocain and inserting the needle in the anesthetized area, gradually and slowly working my needle through until I can feel no further resistance to the point of the needle. At this point I leave my syringe plunger free, watching it very closely and as soon as I see my solution being pulled into the chest because of the negative pressure in the pleural space, I detach my syringe, holding my needle very firmly, and attach the tubing from my pneumothorax machine. If there is a negative pressure and fluctuation of the manometer with each respiration, I then allow from 200 to 300 cubic centimeters of air to enter the pleural space. I give my second refill on the third day and the successive refills at intervals, depending on the pressure each time and the amount of air lost between refills. The average loss in the beginning is about 100 cubic centimeters per day but gradually lessens as the pleura thickens. Each case of pneumothorax is just as individual as each case of tuberculosis, and I think we can best determine the intervals between refills and the amounts of air to be given by studying each case just as if we had never seen one like it.

The length of time a lung should be kept collapsed varies a great deal with the amount of trouble the individual has when pneumothorax is begun. I believe if we collapse a lung early, before any cavities are present, from two or three years is sufficient time to allow thorough healing, however, if we get one where there are several cavities present, I believe the lung should be compressed from three to five years and in some cases perhaps even longer. Now during this time your patient need not remain in bed all the time. I have patients, and am sure others have too, that return to their work after three to four months, and carry on their jobs, at the same time keeping up their refills at regular intervals.

We are not always fortunate enough to obtain pneumothorax in every case that it is attempted upon, as sometimes there is no free pleural space due to adhesions or obliterative pleurisy. In the former, if we are able to establish some degree of collapse, it

might be possible to sever the adhesions through a thoracoscope, while in the latter it is impossible to get in any air. If your patient improves with a partial collapse, I think it best to continue your refills. Thick-walled cavities sometimes render a collapse impossible, but I recommend putting a positive pressure on these, and I think a great many will go down. When there is definite spread in the contralateral lung, pneumothorax must be discontinued, although at times, continuing the refills with strict bed rest will sometimes check this spread.

There are a few definite complications in pneumothorax, and perhaps the most frequent one is pleural effusion. In my pneumothorax cases, there have been about twenty per cent develop effusions, from a very small amount, to one that nearly filled the pneumothorax space. In these cases, if the fluid does not interfere with my refills, I leave it alone, in those where it does interfere, I remove some of it and replace it with air. I think an effusion is absorbed quickly and we are in danger of losing our space. Occasionally empyema develops after the effusion, and in those cases I believe it best to aspirate. I have gotten some good results with irrigating the space with a weak dilution of metaphen, leaving a small amount in the pleural space. Spontaneous pneumothorax and pleural effusion in the contralateral lung might occur, and when it does, prompt action is necessary to save life. Air embolism and pleural shock occasionally occur in administering pneumothorax. The mechanism of their production is not clear though they might happen in a case in which the treatment has been given with the strictest precautions. I have had occasion to see three cases which might be called "air embolus." Fortunately neither of them was fatal.

Pneumothorax is valuable without question, in spite of its limitations, complications, and disappointments to both the patient and the doctor, and I believe and hope that in the future we will see more earlier collapses and not wait to use it as a last resort.

In this paper I have tried to bring out some points concerning pneumothorax, and

I have selected four cases in which the treatment has been completed, that will illustrate further some of the points mentioned in the above and also the results obtained from this type of treatment.

Case No. 1—Miss E. P. Age, 34. Ill one year before pneumothorax was begun, during which time she was on bed rest. Pneumothorax begun by Dr. Ringer in November, 1932, after which all symptoms ceased. I began her refills in September, 1933, and continued them until January, 1936. After which I have followed her to date. She has been working since 1935. At present no indications of any activity. Case illustrates effusion and difficulties encountered due to adhesions.

Case No. 2—Mr. L. R. Age, 33. Ill since August, 1931. Bed rest until September, 1933, at which time pneumothorax was begun and discontinued November, 1936. Patient has worked off and on since 1935. At present no pulmonary symptoms, although he has a tuberculous orchitis and epididymitis. Case illustrates effusion, also the importance of an early collapse, as I believe had this been done in this case this boy probably would not have had all his complications.

Case No. 3—Miss W. W. Age, 21. Ill since June, 1934. Bilateral tuberculosis with laryngeal involvement. Pneumothorax was begun January, 1936, on left side. Marked improvement in all symptoms in two months. Pneumothorax discontinued January, 1938, because lung re-expanded suddenly. At present working and free of all symptoms.

Case No. 4—Mr. J. W. Age, 23. Diagnosis in July, 1934, in clinic, but patient did not know about his trouble until diagnosis in April, 1935. Put to bed for one month, during which time cavity developed. Pneumothorax was begun May, 1935, and discontinued April, 1936, because lung re-expanded. In this case only the apex was collapsed. Patient has been working since 1936. Illustrates cavity formation, even with bed rest.

CONCLUSIONS

1. That artificial pneumothorax is a valu-

able aid in the treatment of pulmonary conditions, especially tuberculosis.

2. That there are certain cases in which it is especially indicated.

3. That there are certain limitations and complications in administering it.

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DISCUSSION

DR. JAMES L. HAMILTON (Chattanooga): Mr. President and Members of the Tennessee State Medical Association: I think it is rather unfortunate that this paper came at this time because most of the members are ready to leave. It is a very important subject that all of us are vitally interested in, when we realize that our state has the highest native mortality of any state in the Union.

I have enjoyed this paper very much because I have been doing this type of work for about seven or eight years.

As Dr. Smith has stated very truthfully, the success of treating tuberculosis depends on early diagnosis and early institution of treatment. At some times during the course of tuberculosis practically all cases can have a collapse. Of course after they have been several months standing there will be a large percentage of them that we cannot find any pleural space in at all, or if we can, we cannot get satisfactory collapse due to adhesions.

We all know that the most important thing in treating tuberculosis is rest. When you treat any organ, the lung or bone, that has tuberculosis, the most important thing is rest. When you have an organ like the lung that is expanding from twenty to twenty-four times a minute, it is pretty difficult to put that at complete rest without some form of collapse. Of course, rest in bed will cut down a number of respirations, but pneumothorax gives much more rest and also better closure of the cavities.

There was one thing I understood the essayist to say in his indications and contraindications with which I cannot agree. As I understood it, he said that laryngeal tuberculosis and tuberculosis of the gastrointestinal tract were a contraindication. Of course we think of those cases in far advanced tuberculosis, it is true, but I think if the lung lesion is suitable for collapse we should give it regardless of laryngeal lesion or tuberculosis of the gastrointestinal tract, because lesions usually run pretty well parallel to the chest. If the lesion

in the chest improves, as a rule the lesion in the larynx or the gastrointestinal tract will improve. As they progress downward, that lesion gets worse.

I was particularly interested in his technic. He brought out one point that I had not noticed in the literature, but I have been doing it, and that is giving the first injection, which is the hardest one; after you get a lung well collapsed it is very little trouble to give them, but the first one is the hardest, and that is where usually accidents occur, pleural shock or air embolism is usually caused by starting a flow of air before you enter your pleural space. He mentioned injecting the needle and watching the novocain being sucked in. I had been using that but had not noticed anybody describe it before.

One other thing I do differently. He says he gives the second refill on the third day. To start with I used to give every other day, but recently I have been giving them every day. I give two to three hundred the first day, then the next day, and may slightly increase it. The ideal picture that we usually like to have is to keep a negative pressure. Of course where you have adhesions that is impossible, you have to exert a good deal more pressure to get closure of the cavity. As he stated, pleural effusion is the most common complication. It does not often cause any particular trouble. We just worry sometimes. I hate to see it happen, but as far as the ill effects, they apparently do not get any. On the other hand, I have seen some that I thought it helped, but I have seen some with adhesions so you could not get the cavity closed.

By the way, those with adhesions are the type that are more apt to have pleural effusion. After developing effusion and the cavity is closed, you get a better collapse.

As Dr. Smith has stated, at the first one the patient should have some sedative of some kind, because they are usually apprehensive; the first one usually causes a little more pain and leaves the patient a little sorer than the later ones. After you get the lung collapsed down, there is very little pain or soreness left.

The length of time to keep them collapsed is another point. I think in the past we have let the lungs come out too soon. If you are going to make a mistake, you should make it in keeping them down too long. Of course where you have a fairly extensive lesion with large cavities and you keep them down four or five years, it is pretty difficult sometimes to get those lungs to re-expand at all, especially where there is a lot of destruction of the tissue. Sometimes you have to keep them up indefinitely.

I have not had any experience treating pneumonia. Of course I have seen in the literature a lot of very promising reports, but on the other hand I have seen some that were not in favor of it at all.

As to lung abscess, I have tried one or two with

very little success. I think it is too late starting them.

Bronchiectasis I have not treated with pneumothorax. As the doctor stated, most of them are bilateral and long standing. When you let the lungs re-expand, you have a recurrence of the bronchiectasis. I have enjoyed the paper very much.

DR. HOLLIS E. JOHNSON (Nashville): Mr. Chairman and Gentlemen of the Society and Guests: I think we certainly are indebted to Dr. Smith for bringing to our attention a subject of as great importance as pneumothorax. Most of you know that I have been exceedingly interested in this subject for quite a few years, and I am much pleased to find a spreading interest in this form of therapy. I shall not try to discuss the paper completely because that would take entirely too much time, but there are a few points which I would like to discuss.

First with regard to the indications for pneumothorax, I agree thoroughly with his expressed indication of doing pneumothorax early in cases of tuberculosis because it has been shown quite a long time ago that the degree of improvement or the degree of benefit that one might get from pneumothorax depends upon the satisfactoriness of the collapse. So it stands to reason that the earlier one does his collapse the more likely he is to get a satisfactory collapse. The earlier the collapse can be done satisfactorily I think the better it will be for the patient and our results.

It seems to me that it is good therapy to do pneumothorax on even minimal cases of pulmonary tuberculosis. There are some doctors who disagree with such management, who think that pneumothorax should not be done in minimal cases.

One of the most interesting studies of this phase of the treatment came from the Chicago Municipal Clinic in which they studied three groups of patients. One group was treated by rest in bed alone. (These were all minimal cases with comparable amounts of tuberculosis in each case.) The second group was treated by phrenic paralysis alone combined with rest in bed. The third group was treated by pneumothorax alone, that is, combined with rest. The results, however, were observed over a period of five years. At the end of five years there were quite a few deaths among those that had been treated by rest alone. There were still quite a few of them active. In the phrenic paralysis group there were quite a few active, but not so many as there were in the rest group, and there were also quite a few dead, and some of them were able to be back at their former occupations. In the pneumothorax group there had been no deaths, which I thought was very noteworthy and certainly is in favor of pneumothorax even in minimal cases of tuberculosis. There were some that were still under treatment, that still had

active tuberculosis, but a much smaller number than in the other two groups.

Another indication, and a very definite indication, is the presence of a cavity in the lung. If there is a cavity in the lung of appreciable size, we will say at least two or three centimeters in diameter, that lung should certainly be collapsed because it is known pretty definitely that the life expectancy of one with an appreciable sized cavity is approximately five years, and that one does not get well ordinarily unless he has some help in the closure of his cavity.

Another very definite indication is pneumonic tuberculosis. Pneumonic tuberculosis, as we all know, is practically 100 per cent fatal, but with the use of artificial pneumothorax the mortality can be reduced in the hands of some people fifty per cent and in the hands of others seventy-five per cent.

I must say that I do not agree that lung abscess is an indication for pneumothorax therapy because the nature of the infection makes it rather hazardous. One might say that an abscess near the hilus that communicated with a large bronchus would be suitable for such treatment but such an abscess will usually get well on postural drainage and rest in bed plus nearsphenamine and bismuth.

I have tried pneumothorax in abscesses of the lungs as well as in bronchiectasis. None of the abscess cases were helped and two were made worse. Two cases of bronchiectasis were rendered asymptomatic but I am inclined to consider myself lucky. The principle of collapsing these conditions is wrong, because we know that most of them are due to fuso-spirochaetes and that such organisms should not be confined.

If we collapse lungs for these conditions, with these organisms, they are bound to burrow in one direction or another, and they will most likely burrow toward the pleural cavity. If they do, then we get a bronchopleural fistula with one of the worst empyemas one can imagine, and of course the result is most unhappy. So for that reason we do not do pneumothorax any more on lung abscesses nor on bronchiectasis.

I want to emphasize the statement Dr. Smith made that training is necessary. There was a time when I believed that one could be taught to do refills and become a collapse therapist, but Dr. Haygood tried that plan in Georgia with rather unsatisfactory results. It did not work because the men had not had sufficient training. I think the plan will work, and I believe that we can take collapse therapy to everybody in Tennessee in time, but it must be done by trained people and people who know exactly how to use the method and know what to do when complications arise.

DR. RUFUS SMITH (closing): I appreciate Dr. Johnson's and Dr. Hamilton's discussion and I agree with Dr. Hamilton in saying that laryngeal tuberculosis is a definite contraindication. In the

slide I am going to show now, this girl had a very definite laryngeal involvement.

I also agree with what Dr. Johnson says about lung abscesses and bronchiectasis. I do not think that every case of bronchiectasis or even every case of lung abscess can be collapsed. I do think there are definite contraindications, but I do believe we will see a few cases, especially early ones, in which if pneumothorax is given it will definitely benefit them.

One of these cases I will show now. This is a young girl aged twenty-one who had been ill since 1934. She had a bilateral tuberculosis, as you can see, more in her left side than in her right, and she also had a definite laryngeal involvement. Pneumothorax was begun on her in 1936, in which we got a fairly good collapse with a slight adhesion, and her symptoms all disappeared; in fact, she was so hoarse when I commenced pneumothorax on her that she would absolutely regurgitate water and anything else that she tried to drink.

This shows that the base is coming out a little bit, and here her lung re-expanded all of a sudden, her cavity was definitely closed, and I did not try to re-establish her collapse. She has been free of all symptoms; in fact, she has been working for some time.

This case is a man who is a brickmason who had been working in a brickkiln under quite dusty conditions, and he became acutely ill with what he thought was influenza. He stayed that way for ten or twelve days. He was referred to me. That cavitation had not developed at that time. I did not have the first film on him, but there is a definite cavitation of his entire right apex. I began pneumothorax. I got a little bit of collapse in the base, and I was hoping that I might push this up and help him drain out. If you will notice, here is the cavity that has been so compressed. The air went up into here between the mediastinum and the median wall of the cavity, pushing it down. Here is the cavity.

This is the cavitation, which now is completely down, and that man is free of all symptoms. In fact, he has gained about thirty-five pounds. During the time he was ill he had such clubbing of his fingers that he was almost ashamed to show them, and now his fingers are beginning to straighten out and he is absolutely free of symptoms.

I am going to keep that lung collapsed indefinitely. I just do not know how long, because the apex of his lung is gone and I do not know what to put in there other than air.

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H. H. SHOULDERS, M.D., Editor and Secretary

JANUARY, 1939

THE ISSUE

SHALL PATIENTS AND DOCTORS RETAIN THEIR FREEDOM OF JUDGMENT IN THE MATTER OF MEDICAL CARE, OR SHALL THIS FREEDOM BE SURRENDERED TO SOME GOVERNMENTAL AGENCY?

EDITORIAL

THE INDICTMENT OF THE AMERICAN MEDICAL ASSOCIATION

Doubtless every editor of a medical journal is sorely tempted to write an expression of opinion on the indictment of the American Medical Association, but we must, to a large extent, resist the temptation.

In so far as we are concerned, the statement which appeared in the *Evening Star* for December 20 by Mr. Richardson, attorney for the American Medical Association, and an editorial which appeared in the *Atlanta Constitution* for December 25 contain all the information and statements of principle which need be made at the moment. They are as follows:

INDICTMENT EXPECTED

"Attorney Seth W. Richardson, on behalf of the American Medical Association, issued this statement:

"Speaking for the American Medical Association and its officers, I may say that the indictments were, of course, expected. It is an axiom that prosecuting officials can

get any desired indictment from a grand jury. Grand jurors are laymen and take the law and the presentation of the alleged facts from the able prosecuting attorneys, who, naturally, desire indictments as the fruit of their labor. Such indictments represent star chamber proceedings, with witnesses and evidence wholly on the prosecution's side of the particular controversy, and the defendants ultimately named in the indictment have no opportunity whatever to present their side of the controversy to the grand jury.

"The fact that grand jury was required to take the law from the government counsel is particularly unfortunate in the present proceedings because the defendants and ourselves believe that the government is proceeding upon a glaringly illegal basis in prosecuting these defendants under the Sherman Anti-Trust Act.

ILLEGAL PROSECUTION

"We have three times unsuccessfully endeavored to the best of our ability to have the court require the government to submit its views as to the law, to the end that the grand jury might be properly advised concerning the law before returning indictments, but the government had steadfastly refused to disclose either its purpose or its interpretation of the law. The result now is that meritorious organizations and self-sacrificing citizens, who we believe wholly innocent of any wrongdoing, are forced to bear the serious ignominy of an indictment in a federal court.

"We believe there will be no hesitancy on the part of the defendants in presenting a vigorous attack on this prosecution. Motions to quash the indictments will, undoubtedly, be presented to the court in due course, and the fight will be carried just as far as may be necessary to end and defeat this unjust, unwarranted and illegal prosecution."

THE MEDICAL "TRUST"

"Considering the somewhat unrestrained condemnation of the medical profession which emanated from the Department of Justice last summer, the indictment of the

American Medical Association by a federal grand jury comes as no startling surprise. Thurman Arnold, assistant attorney general, forecast the procedure. He said, with reference to closing Washington hospitals to certain doctors affiliated with a group hospitalization plan, that 'it is an attempt on the part of one group of physicians to prevent qualified doctors from carrying out their calling.'

"In the legal eye of the assistant attorney general this was a perfect example of a combination in restraint of trade, punishable under the Sherman Anti-Trust Act. He considered it his duty, presumably, to dissolve the 'trust' and punish those responsible for its operation. Hence, the indictment.

"But when the matter is examined in the cold light of common sense, with all the political fog removed, the premise upon which the indictment is based is absurd. The American Medical Association is no more of a trust, or a combination in restraint of trade, than Mr. Arnold's American Bar Association, or the national organization of architects, or, indeed, the American Federation of Labor, all of which have prescribed rigid rules of practice.

"If a lawyer, or an architect, or a plumber violates the rules of his organization he is chased out at the first meeting, just as a doctor is expelled for practices considered unethical in medicine.

"Unfortunately for the idea of a greater expansion of medical services among the people, many shallow-thinking politicians have jumped to the conclusion that a simple appropriation of \$850,000,000 by the federal government will fill the bill. They labor under the delusion that money can buy anything; that a well-equipped office—beautiful furniture, overstuffed chairs and shiny new instruments—means a well-equipped doctor.

"The profession of medicine, by its very nature, is a monopoly. It couldn't very well be otherwise. It requires at least eight years, from the time he graduates from prep school, to fit a man merely to start 'practicing.' Additional years are required to make him into a 'doctor.' So the stand-

ards of practice naturally ascend to high plane. It requires never-ceasing vigilance to maintain these standards. If they were altered to fit some particular social theory, the profession would soon be overrun with all manner of smooth-tongued quacks.

"It is not denied there is room for broadening and improving the medical care of all the people. The doctors, as a whole, are aware of this. They are willing to cooperate. They are cooperating, on a broad front, and in a practical way. The nature of the extensions sought, however, are such as should call for making haste slowly. It must first be decided just what is to be done.

"Therefore the indictment under the assumption that a certain pet scheme in Washington to revolutionize medical practice is everything to be desired will, in all probability, do more to retard than to hasten the movement."

MEDICAL CARE

The type of medical care that is received by the people is, and always will be, determined by the type of doctor who delivers the care. His knowledge, his skill, his judgment and his interest are factors which will determine the quality of care he delivers. Another essential element in determining the quality of care is freedom of judgment on the part of the patient and the doctor. By mutual consent these two arrive at decisions and cooperative action.

Any system which deprives either, or both, of their freedom of judgment and subjects either, or both, to the domination of some political agency will impair and not enhance the quality of medical care delivered by the doctor and received by the people.

The charge is made, and to some extent sustained by statistical data, that certain elements in the population do not receive adequate medical care. This is admittedly true, but the explanation given by some as to why adequate medical care is not received by these people is erroneous in many instances.

In the first place, many people refuse the care which doctors regard as good med-

ical care. We doctors have never been disposed to compel such persons to accept the care we regard as good. This fact has provoked the statement that medical care cannot rise above the intelligence of the people and their ability to appreciate good medical care. In the second place, economic conditions play a part despite the fact that the medical profession has been more liberal than any group of people in the delivery of services, without pay, to indigent people.

The remedy of this defect does not demand a radical change in our whole set-up for medical care. Those who are unable to pay for their care may be aided in a financial way by government without disturbing that freedom of judgment on the part of patients and doctors. Certainly it would be nothing short of assanine to suggest the abandonment of a system of practice which is the best on earth today, and the establishment of a political system of practice in order to accomplish the cure of this defect.

It does seem that the scandals already developed within the administration of relief to indigent people would suffice to make the people, even the indigents, rather leery about turning over to some political agency the power to boss doctors and patients at the expense of taxpayers.

DEATHS

DR. W. T. BLACK

Dr. W. T. Black, Memphis; Memphis Hospital Medical College, 1898; aged sixty-three; died December 10, 1938.

NEWS NOTES AND COMMENTS

To Dr. Frank E. Whitacre,
Chattanooga, Tennessee:

A testimonial to you from the Chattanooga group of 149 doctors now completing your postgraduate course of ten lectures in obstetrics.

We sincerely believe that no instructor no matter where selected could have

equalled you as a careful, painstaking teacher or had a more intimate, deeper knowledge of his subject than you. You are up to date in all matters relating to the broad subject of obstetrics, resourceful and practical in your advice and most helpful in your consultations. You are most considerate of the comfort of the group, punctual at your lecture dates, and well equipped in every way with splendid moving pictures, instructive slides, models, and manikins.

This group by their splendid average attendance, their rapt attention, and interest shows to you more than words can tell our sincere appreciation of your efforts in our search for knowledge. This course will without doubt result in a great reduction in maternal and infant mortality and morbidity throughout this entire section.

You are pleasing in your delivery, courteous, sincere, modest, a wonderful personality, and surely merit our heartfelt esteem and admiration and we bespeak for you a wonderful career as a teacher or practitioner of obstetrics either here or abroad.

A. M. PATTERSON, *President*.

S. H. LONG, *Vice-President*.

J. MARSH FRERE, *Secretary*,

Chattanooga and Hamilton County Medical Society, Chattanooga, Tennessee.

H. P. LARIMORE, *Chairman*.

D. N. WILLIAMS,

B. L. JACOBS,

H. P. HEWITT,

J. F. HOBBS,

Local Committee on Postgraduate Instruction.

FRANKLIN B. BOGART,

Member Committee on Postgraduate Instruction in Obstetrics, Tennessee State Medical Association.

The Committee on Postgraduate Instruction in Pediatrics has secured as instructor for this course for the next two years Dr. Willis H. Thompson.

Dr. Thompson is a graduate of the University of Minnesota and for the past eight years has been a full-time member of the Pediatric Department of the Medical School

of that university, being assistant professor of pediatrics.

He has been granted a leave of absence for the purpose of conducting this course of instruction in Tennessee.

The first circuit is now being organized in five West Tennessee towns.

Instruction will begin about the middle of February.

The Tennessee Department of Public Health announces, following action by the Public Health Council on November 30, 1938, that stovarsol in 0.1 and 0.05 gram tablets will be made available without cost upon request to physicians for the treatment of congenital syphilis in infants. The 0.1 gram size is available in bottles of fifty and 100 tablets; the 0.05 gram size is available only in bottles of 100 tablets. Stovarsol should be used only in the treatment of congenital syphilis and should *never be given to children over two years of age.*

The following paragraphs describing its use are taken from a previous leaflet prepared by the Department of Public Health in cooperation with the Liaison Committee of the Tennessee Medical Association:

"Stovarsol.—There is considerable danger of abscess formation in infants by using sulpharsphenamine. Stovarsol may be used in infants, but gives dangerous reactions in older children. Give Stovarsol in dosage of twenty milligrams (0.02 gram) per kilogram (2.2 pounds) of body weight daily by mouth in water or milk. This represents the maximum daily dose in courses of ten weeks separated by four-week intervals of bismuth or mercury. The maximum dose should not exceed 0.3 gram.

"First week give one-fourth to one-fifth of maximum dose daily. Second week give one-half of maximum dose daily. Third week give three-fourths of maximum dose daily. Fourth to tenth week give maximum dose daily.

"When serological tests become and remain negative, two additional courses of stovarsol should be given. In event of continuous positive serological tests, treat for at least two years or longer if spinal fluid is positive.

"Danger of Stovarsol.—The signs and

symptoms of stovarsol poisoning are diarrhea, rash, vomiting, fever, bloody urine, etc. If any of these appear, stop treatment immediately and try again after one month. Children receiving stovarsol should be seen at least weekly for first four weeks and every two weeks thereafter."

Requests for this material must be accompanied by the usual case report forms required on other cases. Physicians in cities and counties with full-time health service should send their request to the local health department. Physicians in other areas should make requisition directly to the Tennessee Department of Public Health.

Dr. Perry Bromberg and Dr. Elkin L. Rippey announce the removal of their offices from the Bennie-Dillon Building to 1913-1915 Church Street, Nashville.

WOMAN'S AUXILIARY

President.....Mrs. H. E. Christenberry
Knoxville
President-Elect.....Mrs. Matt. Murfree
Murfreesboro
Press and Publicity.....Mrs. Frank Fessey
Nashville

DAVIDSON COUNTY

Dr. W. S. Leathers, dean of the Vanderbilt University Medical School and an outstanding authority on public health in the South, will speak Friday, January 5, at the Y. W. C. A. at an open meeting of the Women's Civic Forum sponsored by the Ladies' Auxiliary of the Nashville Medical Society and the Davidson County Academy of Medicine.

The subject of Dr. Leathers' address will be "Problems of Public Health." Dr. Perry Bromberg will introduce the speaker and Dr. Roger T. Nooe, pastor of the Vine Street Christian Church, will deliver the invocation.

Honor guests of the forum will include a group of city officials, officers of the Academy of Medicine, members of the advisory council to the Medical Auxiliary, city health officers, and leaders of women's groups not affiliated with the forum.

Mrs. B. F. Byrd is general chairman of arrangements. Under the splendid leadership of Mrs. Byrd and with the assistance of her most able committee, the meeting will be the outstanding meeting of the auxiliary for this year. We just wish that all the members of the auxiliary throughout the state could be present.

SHELBY COUNTY

I know that we all read with a feeling of deep regret of the passing of Dr. W. T. Black. To Mrs. Black we extend our deepest and most heartfelt sympathy. Dr. Black's death creates a void, not only among those who knew and loved him as a gentleman and a man, but his loss will be felt by the citizens of his community and by the profession at large. His was an outstanding position in his chosen work and his footsteps are deeply imprinted in the sands of time.

My dear Friends:

I take this opportunity to send you my warmest greetings and most sincere wishes for a happy and prosperous New Year.

This has been a busy season for all of us, but let the reason for it shine through all our business. We receive of life as we give of ourselves to others, unselfishly and without thought of return. I know that the coming months will bring to each of you peace and contentment and that you can reflect on the year just past and feel that it has been a job well done in every way. But next year let us be able to look back with a still greater feeling of satisfaction over a year well spent. As your publicity and press chairman I wish at this time to thank you for the splendid cooperation you gave me last year and to say that this year we want more and more publicity. We want this to be the outstanding year in the history of our auxiliary. Plans can be realized only through the concerted effort, interest, and enthusiastic support, not only of the officers of the auxiliary, but of each individual member of the auxiliary. We must, at all times, remember that each of us is a vital cog in the wheel of our

organization. And, as state publicity chairman, it is my pleasure and my great desire to cooperate with you in every way possible at all times.

Sincerely yours,

SUE M. FESSEY.

MEDICAL SOCIETIES

Davidson County:

November 29—"Sulfanilamide: A Review," by Dr. E. H. Barksdale. Discussed by Dr. Albert Weinstein.

December 13—"A Discussion of the Cancer Problem with Special Consideration to the Radiation Treatment of Cancer of the Lip, Mouth, and Larynx," by Dr. Harry Friedman of Boston.

January 3—Annual banquet at the Noel Hotel.

January 10—"Milk Allergy," by Dr. Herman Spitz. Discussed by Dr. Horton Casparis.

"Case Report: Fifth Fistulectomy with Plastic Repair," by Drs. D. W. Smith and M. B. Davis.

The following papers are scheduled to be read:

January 17—"Surgical Significance of Coronary Disease," by Dr. Alton Ochsner, professor of surgery, New Orleans.

January 26 (Thursday)—"Diabetes," by Dr. James E. Paullin, professor of medicine, Atlanta.

"Newer Knowledge of Nutrition and Vitamins," by Dr. J. S. McLester, professor of medicine, Birmingham.

January 31—"Stones in the Upper Urinary Tract," by Dr. B. Wright. To open discussion, Dr. Perry Bromberg.

February 7—"Consideration of the Complications of Gall-Bladder Surgery," by Dr. Chas. Gordan Heyd, ex-president of the American Medical Association, New York City.

February 14—"Consideration of Uterine Prolapse and Related Conditions," by Dr. James C. Masson, Mayo Foundation, Rochester, Minnesota.

February 21—"Chronic Arthritis," by

Dr. Albert Weinstein. To open discussion, Dr. J. B. Youmans

Greene County:

The Greene County Medical Society met Tuesday, January 3, at the Andrew Johnson Clubhouse.

Dr. M. A. Blanton presented a paper on "Medical Ethics." Dr. L. E. Dyer opened the discussion

The following members were present: Drs. M. A. Blanton, L. E. Dyer, C. B. Laughlin, R. S. Cowles, L. E. Coolidge, Hal Henard, R. B. Gibson, Haskell Fox, I. E. Phillips, W. T. Mathes, and H. B. Anderson.

I. E. PHILLIPS, *Secretary*.

OTHER MEDICAL SOCIETIES

The American Congress on Obstetrics and Gynecology is to be held in Cleveland, Ohio, September 11-15, 1939

It is sponsored by the American Committee on Maternal Welfare, Inc.

A preliminary program indicates that this will be an important meeting of obstetricians and gynecologists.

Those interested in obtaining additional information concerning the meeting are requested to communicate with the headquarters office, The Annex, 650 Rush Street, Chicago, Illinois.

Dr. C. F. N. Schram, medical director for the Tennessee Eastman Corporation, Kingsport, Tennessee, announces a meeting of the Southern Safety Conference to be held in Jackson, Mississippi, February 16, 17, 1939.

All who are interested at all in industrial medicine are urged to attend.

Dr. J. R. Garner, chief surgeon of the Atlanta and West Point Railroad, Atlanta, is to speak on the subject, "Industrial Medicine for Large and Small Plants."

Dr. Donald M. Shafer of the National Association of Manufacturers will speak at the physicians' banquet in the evening.

A complete program has not been received. All interested are requested to communicate with Dr. Schram.

A sectional meeting of the American College of Surgeons is to be held in Nashville, January 18, 19, 20, 1939.

The states represented are Tennessee, Arkansas, Missouri, Mississippi, Alabama, Georgia, Florida, Louisiana, and Kentucky.

Doctors who are not members of the college are welcome to attend these meetings.

A large group of very distinguished surgeons will appear on the program.

Hospital conferences of broad general interest to the medical profession are to be held.

All people who are interested in medical care and hospital administration will be welcome to attend these sessions.

VANDERBILT UNIVERSITY MEDICAL SOCIETY DECEMBER 2, 1938

1. Case Report: "A Case of Chicken Pox with Gangrene," by Dr. J. T. Fowler, Jr.

A three-year-old white male admitted to Vanderbilt Hospital eight days after onset of chicken pox and two days after onset of purpura involving the legs, ear, and buttocks. On admission there was moderate anemia with thrombocytopenia. Several transfusions and snake venom were used and under this regime the bleeding was controlled. Four days after admission the feet became mummified and six days later there was a sharp line of demarcation of gangrene in the upper third of each leg. On the fourteenth hospital day both feet were amputated at the ankle joint and the necrotic tissue removed from both legs. At no time has the patient seemed very sick and at the present time his course is uneventful.

This case was discussed by Drs. Katherine Dodd, Alfred Blalock, and Beverly Douglas.

2. "The Direct Determination of Foetal Oxygen Consumption," by Dr. Morton Mason.

The oxygen consumption of the foetal sheep was calculated from measurement of the foetal blood volume, and the rate at

(Continued on page 32)

DOCTOR . . .

You Are Cordially Invited to Attend the
54th ANNUAL CONVENTION
of the
**MID-SOUTH POSTGRADUATE
MEDICAL ASSEMBLY**
at
HOTEL PEABODY, MEMPHIS, TENN.

February 14, 15, 16, 17, 1939

Read this list of those who will deliver addresses and make your hotel reservations at once.

Dr. Soma Weiss, Medicine, Boston, Massachusetts —
Dr. Grady E. Clay, Ophthalmology, Atlanta, Georgia —
Dr. Roy R. Kracke, Pathology, Atlanta, Georgia —
Dr. George R. Herrmann, Medicine, Galveston, Texas —
Dr. Ralph M. Waters, Anesthesia, Madison, Wisconsin —
Dr. Howard C. Naffziger, Surgery (Neurological), San Francisco, California —
Dr. Henry B. Orton, Otolaryngology, Newark, New Jersey —
Dr. Edgar G. Ballenger, Urology, Atlanta, Georgia —
Dr. M. P. Rucker, Obstetrics, Richmond, Virginia —
Dr. Norris W. Vaux, Obstetrics, Philadelphia, Pennsylvania —
Dr. F. A. Collier, Surgery, Ann Arbor, Michigan —
Dr. Anthony Bassler, Medicine, New York, New York —
Dr. Dean M. Lierle, Otolaryngology, Iowa City, Iowa —
Dr. William P. Healey, Gynecology, New York, New York —
Dr. Arthur W. Allen, Surgery, Boston, Massachusetts —
Dr. E. B. Shaw, Pediatrics, San Francisco, California —
Dr. F. W. Rankin, Surgery, Lexington, Kentucky —
Dr. Leon J. Menville, Radiology, New Orleans, Louisiana —
Dr. Maurice C. Pincoffs, Medicine, Baltimore, Maryland —
Dr. A. M. Snell, Medicine, Rochester, Minnesota —
Dr. John H. Musser, Medicine, New Orleans, Louisiana —
Dr. Julius H. Hess, Pediatrics, Chicago, Illinois —
Dr. Ralph A. Kinsella, Medicine, St. Louis, Missouri —
Dr. Alton Ochsner, Surgery, New Orleans, Louisiana —

Programs will be mailed February 1. Write for one if you do not receive yours

DR. A. F. COOPER, *Secretary-Treasurer*

Goodwyn Institute Bldg.

Memphis, Tennessee

which oxygen disappeared from foetal carotid blood after ligation of the umbilical cord as follows:

$$\frac{-do_2 \times 60 \times BV}{t \times Wt.} = \text{cc. } O_2 \text{ consumed per gm. foetus per min.}$$

$-do_2$ = decrement in foetal carotid blood in time t . (vols. %).

BV = foetal blood vol in 100 cc. units.

Wt = foetal wt. in gms.

The average of a series of measurements over the latter quarter of pregnancy was 0.004 cubic centimeters per gram foetus per minute, indicating that the respiration per unit mass of foetal tissue is somewhat lower than that of the mother. From additional blood gas analyses, the rate of umbilical cord blood flow, and the lower limit of rate of blood flow through the uterus was also calculated.

This paper was discussed by Drs. David Strayhorn, Walter E. Garrey, and Allen Kennedy.

3. "Concerning the Anatomy, Physiology and Pathology of the Innervation of the Pupil," by Dr. W. de Gutierrez-Mahoney.

An oculomotor nerve was divided intracranially in each of ten primates (monkey, baboon, chimpanzee) and the oculomotor nuclear component was examined in serial section with the Nissl method. The "retrograde reaction" of Nissl was seen in the cells of the homolateral motor nucleus and in some of the cells of the central nucleus (Perlia). There was no reaction in the cells of the Westphal-Edinger nucleus. The ciliary ganglion was removed on one side in two monkeys and, by the same method, the "retrograde reaction" was seen only in some of the cells of the central nucleus (Perlia). The pupil on the same side did not react to light, direct or consensual, but did react on convergence—the Argyll Robertson pupil. Thus, the Westphal-Edinger nucleus is not part of the oculomotor nerve component, nor is it concerned with the reaction of the pupil to light. This function belongs to the central nucleus of Perlia.

This paper was discussed by Drs. Sam L. Clark and Walter E. Garrey.

ABSTRACTS OF CURRENT LITERATURE

ANESTHESIA

By HUGH BARR, M.D.
Medical Arts Building, Nashville

Clinical Experiences with Newer Analeptics. Burstein and Rovenstein. *Anesthesia and Analgesia* (May-June), 1937.

Picrotoxin, metrazol, and coramin, the drugs employed in this study are prominent among those recently advocated as analeptics. They may be administered subcutaneously, intramuscularly or intravenously. Fractional doses repeated were found to be more satisfactory. The intravenous route was found to be more efficacious.

In the treatment of depression following morphine, ether, paraldehyde, cyclopropane, tribromethanol, barbituric acid derivatives, and spinal anesthesia, respiratory depression responded to these drugs according to the depth and time it has existed. The more profound the less satisfactory the result. Surgical shock is not benefited by these drugs.

During this study no opportunity was presented to observe the effects after lethal doses of narcotics. Artificial respiration is the only proven effective resuscitative measure to combat lethal doses of any hypnotic or anesthetic. Its use cannot be omitted whenever the medullary centers are paralyzed or extremely depressed. Analeptics in these conditions are of no value except in conjunction with artificial respiration. It was also found that patients under anesthesia reacted sooner if these agents were administered.

DERMATOLOGY

By E. E. BROWN, M.D.
Doctors Building, Nashville

Clinical Experience in Treatment of Erysipelas with Protosil. Y. Iga and T. Kato. *Acta dermat.* 30: 112 (December), 1937, December, 1938.

The authors treated erysipelas in thirty-one cases by oral administration of protosil, one or two tablets being given daily for the first few days and one tablet daily after the fall of fever. There were twelve patients under thirteen years of age, eleven between twenty and forty, and eight over fifty. The eruption was located usually on the scalp and face, frequently on the lobes of the ears and in three cases on the lower extremities. In the majority of the cases the temperature dropped to normal within the first three days. The general condition rapidly improved, and in the next two to five days the eruption disappeared. All the patients except one who died had a normal temperature after from two to eight days. The eruption

subsided within four and seven-tenths days on an average. Relapse occurred in three cases, but promptly responded to the medication. Because of the small dose no harmful by-effects were observed. The author believes that the treatment surpasses in effect any form of treatment used for erysipelas.

INTERNAL MEDICINE

By R. B. WOOD, M.D.
By D. R. THOMAS, M.D.
Medical Arts Building, Knoxville

Diabetes Mellitus and Peptic Ulcer. Rothenberg and Teicher. A. J. Digestive Dis., December, 1938.

The authors have reviewed the literature on this subject and report nine cases of their own.

From January, 1913, to August, 1936, the total number of admissions to the Jewish Hospital in Brooklyn was 130,500. Of these 3,525 had diabetes or 2.7 per cent. Of these diabetics only nine or twenty-five per cent had peptic ulcer. In the total admissions there were 1,952 proven peptic ulcer cases or 1.49 per cent. Including their nine cases with the total number of cases reported, they find only fifty-one cases of peptic ulcer in a total of 10,397 diabetic patients or 0.49 per cent.

In their nine cases six were females and three were males. In six the diabetes was known to antedate the ulcer, in three the reverse was true. In only four of the nine cases was there any relation between the taking of food, only two received relief from taking alkali. Seven of the nine cases were duodenal ulcers, one was on the lesser curvature and one in the pylorus and duodenum. Gastric analysis was done on seven of the nine, five showed normal acidity, one subacidity, and one hyperacidity. All were mild diabetes, only three requiring daily insulin.

Six were treated medically, three surgically with gastrojejunostomy. Of the three surgical cases, one, age seventy-two, died of cardiac collapse on the seventh postoperative day; one, age sixty-five, of uremia on the eighth postoperative day; and one had an uneventful recovery and left free of complaints.

Three of the six treated medically were given diets for their diabetes and all three left the hospital unimproved. Three were treated on a Sippy diet regime, the diabetes being controlled with insulin as needed, and all left the hospital greatly improved.

Their conclusions are:

1. The coexistence of peptic ulcer or diabetes is only 0.49 per cent.
2. Low gastric acidity being found in a large percentage of diabetes is a likely factor in the infrequency of peptic ulcer in diabetics.
3. Ulcer symptomatology was typical in the cases.
4. Best therapeutic results were obtained by using the Sippy diet—directing the primary

treatment at the ulcer, and controlling the diabetes as necessary with insulin.

OBSTETRICS AND GYNECOLOGY

By HAMILTON V. GAYDEN, M.D.
Suite 234 Doctors Building, Nashville

Generalized Peritonitis Secondary to Ruptured Pyosalpinx. H. Martz and M. Foote. Am. J. Obs. and Gyn., 36: 1009-1017, December, 1938.

Generalized peritonitis secondary to chronic pelvic inflammatory disease may occur by one of two methods: the purulent material may be expressed from the patent fimbriated ostium of the tube and then spread over the general peritoneal cavity, or the material may be suddenly discharged by rupture of a pyosalpinx. It is the latter condition which forms the basis of this paper. Here the infection starts as an edosalpingitis, usually caused by the gonococcus. The tube then becomes sealed off at both ends and undergoes increasing distention until it becomes a cystic mass containing pus. The pyosalpinx may then burst either spontaneously or as a result of some slight, indirect trauma, liberating its purulent material into the general peritoneal cavity. The purpose of this paper is to emphasize the clinical syndrome associated with this condition, and to offer suggestions for its treatment.

Although not a common complication of gonorrhea in the female, rupture of a pyosalpinx accounts for eight per cent of all cases of generalized peritonitis. In the majority of cases of spontaneous rupture of a pyosalpinx, there is no assignable cause for the perforation. There is no strict correlation between perforation and the number of acute attacks of salpingitis or the size of the pyosalpinx. The diagnostic features consist of a sudden onset of a diffuse and rapidly spreading peritonitis associated with a state of circulatory collapse, followed by a rapidly rising temperature, a leucocytosis and an elevated sedimentation rate. The treatment of choice of this condition is a bilateral salpingectomy followed by the insertion of a Mickulicz or tube drain into the pelvis. The prognosis depends upon the general state of the patient, the time of surgical intervention, the nature of the operation instituted, and to a lesser extent, the bacteria present at the time of perforation.

OPHTHALMOLOGY

By ROBERT J. WARNER, M.D.
Doctors Building, Nashville

Detachment of the Retina and Indirect Injury. W. Gilbert. American Journal of Ophthalmology, November, 1938.

Beside reporting his own cases, Gilbert has collected from the literature the views of different

(Continued on page 36)

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 Dr. E. C. Ellett, Memphis; West Tennessee.

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authors on the question whether concussions of the head or of the whole body, or bodily overexertion, may lead to detachment of the retina. He closes the array of affirmative answers with Meller's words that without a doubt a severe bodily exertion may occasionally produce detachment of the retina. According to our present knowledge, the disproportion between physical strength and required labor must, in a whole series of pertinent cases, be one of the factors which favor detachment. The acknowledged importance of a tear may render conceivably a longer interval between trauma and detachment, as experienced in cases of detachment after cataract operations. The author thus summarizes his views: If in a given case bodily overexertion is admitted as an accident, a detachment of the retina soon following must, as a rule, be attributed to such accident, no matter whether it occurred in an emmetropic, a myopic, or a senile eye, and compensation should be awarded accordingly.

ROENTGENOLOGY

By FRANKLIN B. BOGART, M.D.
Medical Arts Building, Chattanooga

End Results of Irradiation of the Thymus Gland in Twenty-Seven Normal Infants and Children. C. G. Kerley. *Am. J. R. and R. T.*, Vol. 40, No. 3, p. 416, September, 1938.

Twenty-seven cases are reported, who had symptoms suggestive of an enlarged thymus, in which the roentgen examination confirmed the clinical diagnosis, and all of whom received X-ray treatments. The children were otherwise normal. Relief of symptoms resulted in all cases.

The treatments were administered by two radiologists. The treatments varied in number from three to ten, the kilovolts from 140 to 178, the filter varied from three millimeter aluminum to .5 millimeter copper plus one aluminum. The average dose was thirty-five r at each treatment.

Most of the children were less than one year of age when treated. The follow-up period was from one year to eleven years.

The author concludes that thymic irradiation in infants and young children produces no retardation of physical growth or mental development.

SURGERY—GENERAL AND ABDOMINAL

By BATTLE MALONE, II, M.D.
1400 Monroe Avenue, Memphis

Differential Diagnosis of Benign and Malignant Breast Tumors. Kenneth E. Fry, M.D. *Surgical Clinics of North America*, December, 1938.

The diagnostic measures used in breast tumors are outlined under five headings: history, physical examination, transillumination, roentgenographic

examination which includes ordinary study, search for metastatic lesions and mammography, and biopsy. The author divides breast tumors into benign and malignant lesions and further into the solid and cystic varieties for this study.

Of the benign solid tumors, fibroadenoma or adenofibroma is most common. These tumors occur usually following puberty and may be single or multiple. The lesions are painful particularly during the early part of the menstrual cycle. The growth is very slow. The mass is freely movable, smooth or lobulated and shows up as a solid tumor on transillumination. There is rarely any nipple discharge. Biopsy by complete excision and microscopic section is the treatment. In the solid tumors is included chronic cystic mastitis. These are most often found in women near the menopause, but may be seen at any age after puberty. Pain is the principal symptom and is most pronounced early in the menstrual cycle. There may be a serious nipple discharge; the tumor is freely movable in the breast tissue and there may be a definite nodular formation or a "shottiness" may be felt on palpation. While cancer is occasionally found in this type breast the author does not recommend removal of every breast in which this condition is found. Biopsy gives a conclusive diagnosis.

Chronic cystic mastitis more commonly produces cystic tumors. The history is the same as the solid variety and physical examination is similar. Transillumination may show conclusive evidence of cyst formation. Mammography with aspiration and air or gas injections shows a smooth-walled cyst cavity. Papillary cystadenoma is found in patients past the menopause and are usually painless. The lesion is often single and there may be a sero-sanguineous discharge from the nipple. Transillumination may show the cystic character, and if air injection is used, the wall will show a definite irregularity. Excision biopsy of the whole cyst with microscopic examination should be done. A galactoceles occurs during lactation or shortly thereafter. These are usually single and painful. Biopsy by aspiration will reveal the true nature of the lesion.

Of the solid malignant tumors carcinoma is the most important. There may be a familial history. The majority occur in the upper outer quadrant. The tumor is fixed to the breast tissue which moves when the tumor is moved. Transillumination may reveal that the mass is infiltrating the surrounding mammary tissue. Roentgenographic examinations for osseous metastasis should be made. Biopsy is made where the diagnosis is questionable. If biopsy and frozen section reveal malignancy, radical mastectomy is done immediately. Sarcomas of the breast are rather rare and occurs usually in adults about the fortieth year. There is frequently a history of a solid breast tumor of several years' duration which begins to grow rapidly. It is not painful until it attains considerable size. Lymph

node metastasis is not common. Radical mastectomy following biopsy is indicated.

Cystadenocarcinoma is a rare malignant lesion which is cystic. It is usually centrally located and is associated with a sanguineous discharge from the nipple. Lymph node metastasis occurs late. Mammography with air injection will reveal the papillary nature of the lining membrane. Aspiration biopsy yields a sanguineous fluid which may contain malignant cells.

UROLOGY

By TOM R. BARRY, M.D., F.A.C.S.

By G. A. WILLIAMSON, JR., M.D.

Medical Building, Knoxville

Renal Rickets as a Urological Problem. Abraham Firestone, M.D. Urologic and Cutaneous Review, December, 1938.

Renal rickets was first recognized by Lucas in 1881, when he described albuminuria associated with rickets. In 1911 Fletcher recognized the bony changes as definitely dependent upon chronic renal pathology. Endocrine changes occurring in the disease were also recognized at this time.

The characteristic features of the disease are an arrest of bony growth, development of bony abnormalities, marked hyperphosphatemia, a lowering of calcium in the blood, delay or retardation in the appearance of secondary sexual characteristics and chronic renal pathology.

The earliest symptoms usually appear about the age of seven and consist of urinary symptoms

associated with retardation of growth. The symptoms of polyuria and enuresis may direct one's attention to the primary renal pathology. The osseous changes manifest themselves between the tenth and fifteenth year. A secondary anemia is usually present with a sallow tinge to the skin. A high N. P. N. and blood urea is present, and the patient usually feels well in spite of these high figures. The blood phosphates become elevated and the calcium remains normal or lowered.

The pituitary is apparently involved, which in turn acts on the gonads, and causes the retardation of the secondary sexual characteristics.

The kidneys become atrophic, resembling the end stage of chronic interstitial nephritis. In addition to this, one often finds obstruction at the vesical neck, polycystic kidneys, or partial agenesis. Bilateral renal calculi have also been found. With these renal changes, there is an absence of cardiovascular changes and hypertension.

There is practically always present hyperplasia of the parathyroid glands. Whether this is primary or secondary to the renal pathology has not been determined. The blood findings and bony changes found in renal rickets and parathyroidism are almost identical.

The prognosis of the disease is usually fatal in from three to five years unless some obstructive uropathy is found, which may be relieved by surgical means. The administration of viosterol, parathormone, intravenous calcium, and blood transfusions may be of some temporary benefit. Death usually results from renal failure.

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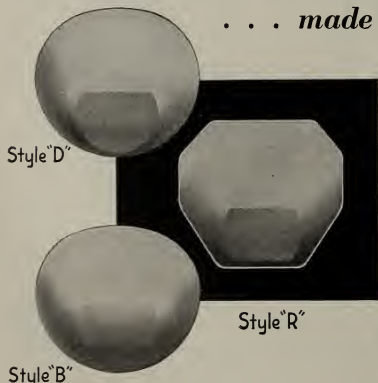
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SULFANILAMIDE: A REVIEW*

E. H. BARKSDALE, M.D.,† Nashville

THE PROGRAM committee of the Nashville Academy of Medicine requested that I present a review of the literature on sulfanilamide instead of limiting the paper to the use of the drug in urology.

Sulfanilamide is the product of numerous investigations which date back over a period of thirty years.

In 1908 Gelmo, working on the chemistry of azo dyes, was the first to mention para-amino-benzene-sulfonamide, which is now known as sulfanilamide.

In 1913 Eisenberg discovered the bactericidal power of certain azo dyes and suggested the possibility of employing them in therapeutics. Various products received experimental and clinical trials; chrysoidine, pyridium, and scarlet red were among the first to be reported.

In 1935 Domayk¹ discovered the efficacy of certain azo dyes in streptococci septicemia of mice. His chemists synthesized a drug known first as streptozon, later as prontosil. Fournau synthesized para-amino-benzene-sulfonamide, which he stated was the pharmacologically effective portion of the prontosil molecule. It was first known as prontosil album, later as sulfanilamide.

DISTRIBUTION

Marshall, Emerson, and Cutting² have shown that the sulfanilamide content of the spinal fluid was parallel to but slightly lower than that of the blood. They also state that sulfanilamide resembles urea and alcohol in its approximately even distribution in the body tissues. Skeletal muscle, heart muscle, liver, lung, and spleen contain the same concentration as blood. Skin contains slightly less. Brain contains about two-thirds the concentration of blood, but bone and fat contain the drug in much lower concentration than blood.

These same workers have determined that ninety per cent of the ingested sulfanilamide is excreted in the urine and that roughly one-half is excreted as active sulfanilamide, while the other half is the inactive acetyl derivative of sulfanilamide. Their experimental data also indicate that sulfanilamide is excreted entirely by glomerular filtration and that between seventy and eighty per cent of it is reabsorbed by the tubule.

MODE OF ACTION

When sulfanilamide is administered to mice immediately after experimental infection, it has a protective action so long as the chemical is given. If administration of the drug is delayed for several hours, or if the treatment is stopped before the animal recovers, it invariably dies. This demonstrates a bacteriostatic effect on the bacteria. No definite bactericidal action has been demonstrated either in vitro or in vivo.

*Read at the meeting of the Nashville Academy of Medicine, November 29, 1938.

†From the Department of Surgery, Vanderbilt University Medical School.

Phagocytes are apparently essential in the action of the drug. Some experimenters believe the effect is on the leukocytes, but others believe it is on the bacteria.

Long and Bliss³ state that sulfanilamide decreases the rate of multiplication of the invading organism, then eventually, as a result of this inhibition of growth of the bacteria, the phagocytes are able to clear the tissues of the invading microorganisms.

Colebrook, Buttle, and O'Meara⁴ state that the protective action of the blood following sulfanilamide administration may be supplemented by that of the tissues of the whole animal. Mellon and Bambas⁵ hold a somewhat similar view. They believe that the primary mechanism of sulfanilamide's action is a mutual reciprocation between it and the bacteriostatic powers of the host in such a fashion that the net result of their interaction is many times more than the combined effects of the separate factors.

These two views suggesting that sulfanilamide potentiates the normal defense action of the host would explain Herrold's⁶ observation that first infections with the gonococcus respond poorly to sulfanilamide, the best results being obtained in second infections and in patients who have had gonorrhea for some time.

TOXICITY

In general it may be said that sulfanilamide is well tolerated by the majority of patients. Buchtel and Cook⁷ state that fifteen per cent of patients cannot take large doses of the drug and ten per cent cannot take it at all. Many writers point out that ambulatory patients do not tolerate large doses as well as patients in bed. Elderly patients and debilitated patients tolerate the drug poorly.

A large per cent of patients treated with sulfanilamide have some symptoms within twelve to forty-eight hours. The symptoms may be divided into three groups—mild, moderate, and severe. The mild symptoms are general malaise, drowsiness, nausea, headache, dizziness, sensitiveness of skin of lower extremities, mental confusion, dyspnea, and slight cyanosis. These symptoms

do not call for discontinuance of the drug. The moderate group of symptoms—fever, mild anemia, marked cyanosis, or dyspnea—should be considered warning symptoms. Administration of the drug need not be stopped because of them, but they demand careful study and observation of the patient.

In the severe group of reactions, sulfhemoglobinemia and methemoglobinemia are the most common. Colebrook⁸ reported three cases of sulphemoglobinemia out of thirty-eight patients treated with sulfanilamide. Many others have reported cases of sulphemoglobinemia, and all agree that magnesium sulfate or other cathartics which produce watery stools are apt to bring about this reaction when the patient is taking sulfanilamide. The same may be said for sulphur water and foods with high sulphur content.

The presence of sulphemoglobinemia or methemoglobinemia may be determined spectroscopically. It has been shown that methemoglobinemia responds quickly to oxygen therapy. Wendel⁹ reported a rapid reduction of methemoglobin after a single injection of one milligram of methylene blue per kilogram of body weight, and it has been suggested that the administration of methylene blue in conjunction with sulfanilamide will prevent the formation of methemoglobin. Sulphemoglobinemia is more obstinate, it lasts for weeks after sulfanilamide has been discontinued. The only treatment is repeated blood transfusions.

Acidosis is another severe reaction. Southworth¹⁰ reported two cases whose carbon dioxide combining power fell to 36.2 and 27.7 volumes per cent. He studied fifteen other patients being treated with sulfanilamide and found that there was an average drop in the carbon dioxide combining power of fourteen volumes per cent. These fifteen patients had no clinical evidence of acidosis. Long and Bliss reported four cases of acidosis and believe that the hyperpnea frequently seen during sulfanilamide therapy is due to acidosis.

The term "drug fever" has been given to a syndrome by Hageman and Blake.¹¹ They reported twenty-one cases with fever and

skin rash occurring in a series of 134 patients treated with sulfanilamide. Many others have reported a rash which is frequently accompanied by fever. The rash is usually described as morbilliform or scarlatiniform, but there may be vesicles, purpuric areas, and edema. Some patients who have had a rash give a positive skin reaction to patch or scratch tests with sulfanilamide.

There is no doubt but what sulfanilamide had a photosensitizing effect. Patients under treatment with the drug very frequently develop a rash when exposed to the sunlight. This rash is confined to the exposed surfaces.

Severe anemia sometimes develops suddenly. Harvey and Janeway¹² report five cases of acute hemolytic anemia. They state that these cases resemble the hemolytic crises produced by phenylhydrazine. Bliss and Long¹³ report seven cases of acute hemolytic anemia, and six of the seven had jaundice. All recovered following blood transfusions.

Agranulocytosis is another severe toxic condition which has followed the administration of sulfanilamide. Nine cases have been reported. Six of these died and three recovered.

Bucy¹⁴ reports a patient who received sulfanilamide on three separate occasions. Unpleasant symptoms occurred the first two times, and the last time there was loss of vision due to toxic optic neuritis.

O'Connell reports an acute onset of a psychosis in a patient who had been treated with sulfanilamide for three weeks. One month after the withdrawal of the drug, there was a definite improvement in the mental state.

Deaths due to elixir of sulfanilamide—Massengill hardly need be mentioned here. Intensive investigations have exonerated sulfanilamide. Diethylene glycol, a very toxic substance, was present in this preparation in approximately seventy-two per cent by volume.

CLINICAL RESULTS

The therapeutic effects of the drug have been so startling, and reports of miraculous

cures of hopeless cases so frequent, that it is not surprising to find the use of the drug so widespread. In the Quarterly Cumulative Index from January to June, 1938, there are sixty-one articles on sulfanilamide in the treatment of various diseases.

The drug was originally introduced for the treatment of betahemolytic streptococcal infections, but Bliss and Long¹⁵ have shown that it is not effective against group D betahemolytic streptococci.

Hemolytic streptococcal meningitis was until recently considered almost universally hopeless. Weinberg¹⁶ has reported two cases of meningitis following streptococcal mastoiditis cured by intramuscular injections of prontosil, and sulfanilamide by mouth.

Schwentker¹⁷ reported four cases of streptococcus meningitis treated with the drug. Three were cured and one died. Anderson,¹⁸ Harvey,¹² and Hageman¹¹ each report one case cured by sulfanilamide.

In puerperal infection sulfanilamide is said to have reduced the mortality from about twenty-five per cent to from five to eight per cent. When used in this disease, Colebrook and Kenny⁸ state that it prevents the spread of the infection in the parametrial tissue and septicemia is less apt to develop.

In erysipelas good therapeutic results have been reported by various writers. Snodgrass and Anderson¹⁰ treated 312 cases and found that the fever was promptly reduced, the spread of the infection prevented and the duration of the toxemia decreased. Breen²⁰ reports on forty-five cases in which thirty-five were treated with prontosil and ten without. In the average treated case, the temperature fell to normal within forty-eight hours, whereas in the average untreated case it persisted above normal.

Results in the treatment of scarlet fever have not been so striking. Peters and Havard²¹ treated 150 cases with proseptasine, an English preparation, and found that the number of complications was reduced by about twenty per cent, but the patients treated had fever twelve hours longer than did patients used as controls. More recently Sako, et al.,²² reported that

complications developed in only eight per cent of a series of cases of scarlet fever treated with sulfanilamide, while in a similar series of cases in which the drug was not used, complications occurred in forty-one per cent, but the rate of recovery from the acute toxic phase of the disease among the sulfanilamide treated cases as compared to the control cases could not be said to be accelerated. They state that early massive intravenous serum therapy to combat toxemia combined with large doses of sulfanilamide seems to be the most effective treatment for scarlet fever. Hoyne and Bailey,²³ interested in the scarlet fever carrier problem, administered sulfanilamide to scarlet fever patients during the last quarter of the regular four-week quarantine period. On the basis of the data obtained from this study, they concluded that the drug is not effective in the eradication of hemolytic streptococci from the noses and throats of scarlet fever patients at the end of a four-week quarantine period.

Flake and Carey²⁴ report six cases of streptococcal infection of the middle ear and mastoid successfully treated with sulfanilamide.

The drug was next used in the meningococcus infections. It has been shown to be effective against types I and II of the meningococcus which probably gives it an advantage over serum therapy. Schwentker and Long²⁵ treated ten cases combining intraspinal and subcutaneous administration. They report the response was good in all cases. In the meningococcemia associated with meningitis, sulfanilamide rapidly clears the blood stream of organisms. Crawford and Fleming²⁶ treated ten cases of meningococcal meningitis with sulfanilamide. Four of the patients were less than a year old and one of these died. All the six patients over a year old recovered. Many other reports on the use of the drug in meningococcal meningitis show consistently good results.

Type III pneumococcus pneumonia was treated with sulfanilamide by Weinberg with remarkable success. Heintzelman²⁷ discusses nine cases treated with the drug as compared with ten cases who did not re-

ceive the drug. Seven of the nine treated cases recovered, whereas only two of the ten untreated cases recovered. A mortality of twenty-two per cent in the treated cases and seventy-four per cent in the untreated.

Long states that sulfanilamide is of some value in pneumococcus, otitis media, and mastoiditis. A temporary improvement in pneumococcal meningitis with a reduction in the organisms and cells in the cerebrospinal fluid has been noted by many writers, and Latto²⁸ and Landon²⁹ each report a case of pneumococcus meningitis with recovery following sulfanilamide therapy.

Branahan and Rosenthal³⁰ have recently shown that in experimental meningitis, due to the meningococcus and pneumococcus in mice, the combination of serum and sulfanilamide therapy yields much better results than either alone.

The combined use of serum and sulfanilamide in influenzal meningitis has also been advocated by Neal and Appelbaum.³¹ Young and Moore³² report a case of influenzal meningitis treated with serum and sulfanilamide which recovered. Four other cases treated in this way were found in the literature, but all of them died.

Marvin and Wilkinson³³ report a case of gonococcal meningitis cured by sulfanilamide. They were able to find only twenty-two cases of gonococcal meningitis in the literature, and the mortality in the twenty-two cases was forty-five per cent. Branham³⁴ also reports a case of gonococcal meningitis which recovered following sulfanilamide therapy.

In gonococcal infections the use of sulfanilamide became very extensive immediately after Colston³⁵ reported favorable results in a series of nineteen cases. The reports since then vary as to the percentage of cures and as to the type of case in which it is most effective. Brown and Banick³⁶ of the Mayo Clinic report cures in ninety per cent of male patients and eighty per cent in female patients, but Watts and Oden³⁷ reporting on seventy-two cases state there were only fourteen cures (approximately twenty per cent) and twelve complete failures. Barry and Williamson³⁸ report a series of seventy-two cases treated

with sulfanilamide, thirty-five cases were acute and thirty-seven chronic. They state that sixty or eighty-three per cent of these were cured by sulfanilamide alone. Ainsworth³⁹ reported on 148 cases, the series including all types of gonorrheal infection of the male genitourinary tract. He states that a cure was obtained in one-third of the cases, and that in another third he felt that the drug was of distinct benefit. Alyea,⁴⁰ et al., report a cure in seventy-six per cent of ninety-five cases of acute urethritis.

Reuter⁴¹ treated 100 cases with the drug and divides them into two groups, forty newly-infected cases with recovery in ninety-two per cent and sixty old infected cases with recovery in eighty per cent. In marked contrast is the opinion of Herrold,⁶ who states that all of his cures have been in patients who had had gonorrhea for some time and that patients with their first infection respond poorly if at all.

The results of my personal experience with sulfanilamide in the treatment of acute gonorrheal urethritis in the male are as follows: A cure obtained in sixty-six per cent, in twelve per cent the drug had no effect, and in the remaining twenty-two per cent the drug was of some value in that the obnoxious stage of the disease, the period of profuse discharge, was definitely shortened. I have seen cures apparently take place in two or three days in both first infections and in second infections, but all cases in which the drug completely failed were first infections. One patient who responded nicely in the first few days had a recurrence of his discharge and developed an epididymitis during the second week of treatment.

In infections of the urinary tract, sulfanilamide, when properly used, constitutes a valuable chemotherapeutic agent. Long and Bliss⁴² state that the results of their *in vitro* experiments show that sulfanilamide may act as a sterilizing agent as well as exercise a bacteriostatic effect against organisms isolated from infected urinary tracts. That the drug may have a definite sterilizing effect in urine is due possibly to two factors, one being that high concentrations of the drug may be obtained in urine

and the other that urine is a poor environment for the growth of organisms compared with that provided by tissues. Hence, the action of sulfanilamide *in vivo* may be enhanced by the medium in which it finds itself.

In the treatment of urinary tract infections the concentration of sulfanilamide in the urine is of prime importance. Marshall and Emerson⁴³ have shown that ninety per cent of ingested sulfanilamide is excreted in the urine and that roughly one-half is excreted as active sulfanilamide, while the other half is eliminated as the inactive acetyl derivative of sulfanilamide. With limited fluids, a fairly high concentration in the urine can be obtained with relatively small doses of the drug. If the patient's diet and fluid intake is regulated so that the daily urine output is fairly constant, the dosage of sulfanilamide necessary to give the patient a given urine sulfanilamide level can be easily estimated. If a patient takes one gram of sulfanilamide a day, he will excrete about one gram a day, when sulfanilamide balance is reached (three or four days after the therapy is started). Half of this is active sulfanilamide, so if his urine output is one liter, the concentration will be fifty milligrams per cent.

When sulfanilamide is given in adequate doses and fails to sterilize the urine, the failure may be due to an obstruction in the urinary passages causing a stasis of urine, or it may be due to the presence of an organism which is resistant to the drug. Therefore, it is of importance to determine whether or not there is obstruction in any part of the urinary tract and to identify the infecting organism before instituting sulfanilamide therapy.

Bliss and Long⁴² *in vitro* experiments found that with the exception of group D beta hemolytic streptococci, all the organisms isolated from infected urinary tracts were susceptible to a 200 milligram per cent concentration of sulfanilamide and that about one-half of them are inhibited in their growth by a fifty milligram per cent concentration.

It has been my experience that approximately seventy-five per cent of urinary

tract infections due to the colon bacillus respond to sulfanilamide therapy and less than half of those due to bacillus lactis aerogenes. Infections due to the various cocci and to bacillus proteus have responded in only a small per cent of cases. It is a well-known fact that the drug has no effect upon the streptococcus faecalis.

Batchelor and Lees⁴⁴ report ten cases of chancroid infection treated with sulfanilamide. They gave eight grams a day for two days, then six grams a day for four days. A rapid cure was effected in all.

Hanschell⁴⁵ reports twenty cases of chancroid, some with bubo, some without, treated with protosil five cubic centimeters intramuscularly every three days and sulfanilamide three grams daily. A cure was obtained in all cases in from five to ten days.

Hutchison⁴⁶ treated thirty-five cases of chancroid with bubo. Twelve cases were treated with local applications, and the average time to complete a cure was 46.2 days. Twelve others were treated with melcos vaccine, and the average time to complete a cure was 46.7 days. Eleven cases were treated with sulfanilamide one gram every four hours, and the average time to complete a cure was 15.5 days.

Manson-Bahr⁴⁷ reports three cases of *Brucella abortus* infections treated with sulfanilamide, two recovered, but while the third improved at first there was a relapse and further sulfanilamide therapy was of no avail.

Richardson⁴⁸ and Francis⁴⁸ each report two cases of undulant fever in which they obtained good results with sulfanilamide therapy. Toone and Jenkins⁴⁹ report one case in which there was an apparent cure after the administration of 450 grains of sulfanilamide over a period of eleven days. Stern and Blake⁵⁰ report three cases with prompt clinical cure of the disease following the administration of sulfanilamide. Trant⁵¹ reports that sulfanilamide effected prompt and apparently permanent cures in two cases of undulant fever. Welch, et al.,⁵² report that animal experimentation indicates that in *Brucella* infections sulfanilamide markedly increases opsonocytaphagic

activity for *Brucella* organisms and they believe that this will make the drug a helpful diagnostic aid in this infection.

Fulghum⁵³ recently reported a case of Ludwig's angina due to streptococci, in a three-year-old child, treated with intramuscular injections of sulfanilamide. The progress of the disease was arrested, there was gradual regression of swelling without pus formation and rapid return to normal as compared to the usual course after surgical treatment. Palmer⁵⁴ and Lyth⁵⁵ each report a case of Ludwig's angina rapidly responding to sulfanilamide therapy.

Walker⁵⁶ reports a case of actinomycosis with an abdominal sinus which had been discharging for seven months. The sinus healed after three weeks of treatment with sulfanilamide. He gave one gram three times a day.

Willis⁵⁷ reports five cases of ophthalmia neonatorum which responded to sulfanilamide therapy. Goldenburg⁷⁰ reports a case of orbital cellulitis with recovery following the use of the drug.

Caro⁵⁸ reports two cases of pemphigus which apparently responded to sulfanilamide, but states that they had been followed for only six months and that both may be having a spontaneous remission.

Kelson⁵⁹ studied the effect of sulfanilamide on experimental poliomyelitis in monkeys. His experiments failed to indicate any therapeutic value.

Toomey⁶⁰ reports a similar experimental study and states that sulfanilamide neither modifies or prevents poliomyelitis in monkeys.

Swift⁶¹ treated eight cases of rheumatic fever with sulfanilamide and states that it had little if any beneficial effect on the course of the disease; practically all of the common manifestations except chorea were represented in his group of cases and none responded favorably. The toxic effects of the drug were especially marked in these patients, and as a result certain rheumatic manifestations seemed to be intensified.

Loe⁶² has treated 140 cases of trachoma with sulfanilamide and reports excellent results, many of them cured within one month. There was a cessation of lacrima-

tion and loss of photophobia within twenty-four hours, and improvement of vision within seventy-two hours in cases of pan-nus. In those cases in which there had been no scarring from instrumentation, the conjunctiva resumed its normal velvety texture. Kirk, et al.,⁶³ report twenty-five cases of trachoma treated with sulfanilamide and state that their results have been very encouraging. They found the drug particularly beneficial in the corneal complications.

Oakley,⁶⁴ believing that sulfanilamide should have some effect on influenza, infected a series of 400 mice. He treated some with derivatives of sulfanilamide and used the others as controls. He states that there was no reduction in the mortality in the treated group and that the lung lesions were more extensive in the treated group than in the controls. However, Albright, et al.,⁶⁵ report two cases of pyelonephritis due to the influenza bacillus. These patients both had a persistently alkaline urine with calcium deposits in the kidney pelvis. Sulfanilamide therapy promptly eliminated the influenza bacillus from the urine with a resulting acid urine.

Rich and Follis⁶⁶ after a study of sulfanilamide in experimental tuberculosis in guinea pigs conclude that the drug exerts a striking inhibitory effect upon the development of tuberculosis, but emphasize the fact that no conclusions regarding the effect of the drug upon human tuberculosis can be drawn.

However, Smithburn,⁶⁷ after a somewhat similar group of experiments, concluded that the drug exerted no beneficial effect in experimental tuberculosis.

Williams⁶⁸ has made a clinical study of the effect of sulfanilamide on acute hemorrhagic nephritis. Twenty-one cases were treated with the drug and the course of these compared to that of seventy previous cases. A focus of beta hemolytic streptococcus infection was present in all cases in each group. There was relatively little difference in the two groups as regards the type or severity of the initial infection (the focus), the type or severity of the nephritis, or the interval between the onset of the

nephritis to the admission to the hospital. He found that in the group receiving sulfanilamide the signs of renal damage disappeared more rapidly, the exacerbations of the nephritis following tonsillectomies occurred less frequently, the duration of edema, hypertension and hospitalization was less, and there was a greater incidence of clinical recoveries. He believes that these results are due to the fact that the foci of infection cleared up more rapidly when sulfanilamide was used. There was no evidence that the drug caused renal damage in any of his cases.

He advised observation of the following principles in treating acute hemorrhagic nephritis with sulfanilamide: the drug should be started as soon as possible and should be given in sufficient doses to maintain the blood level at approximately ten milligrams per cent. The dosage necessary to maintain this will depend on the renal function. It is best to administer the drug in equally divided doses at four-hour intervals. It is advisable to give six-tenths gram of sodium bicarbonate with each dose of sulfanilamide in order to prevent acidosis.

A review of the literature on sulfanilamide leads to the following conclusions:

It is of distinct value in the treatment of many infections.

Its exact mode of action has not been definitely determined.

It is usually necessary for the concentration in the blood to reach ten milligrams per cent in order to obtain results. The dosage necessary to produce this concentration will be altered if the renal function is impaired.

The toxicity of the drug demands two things: first, a proven diagnosis of an infection which is known to respond to the drug, and second, careful observation of every patient while being treated with the drug.

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THE MEDICAL MANAGEMENT OF CHRONIC GALL BLADDER DISEASE*

L. C. SANDERS, M.D., Memphis

THERE IS AN abundance of evidence in the literature and in practice that cholecystitis is the most common cause of upper abdominal disease.

From the reports of large groups, clinics, hospitals, and pathologists it has been estimated that approximately forty per cent of adults have some degree of gall bladder pathology.

Out of 50,000 consecutive new patients at the Mayo Clinic, only five per cent complained of biliary disease as the primary symptom. During the same period, however, there were 600 routine autopsies performed with the finding of evidence of cholecystitis in sixty-six per cent of cases. Post-mortem findings reported by Crump, in a large series, showed fifty-six per cent having some form of cholelithiasis.

From the combined reports of surgeons, pathologists, roentgenologists, and bacteriologists has come an enormous wealth of material which has been applied to actual practice. The result has been a rearrangement of thought and an approach to treatment with a far greater confidence in ultimate success.

Unfortunately physicians, until recently, have had no systematic plan of medical care of this large group of sufferers. Some of our leading internists and gastroenterologists have instituted a system, based upon sound principles, which has been used over a long enough period to warrant its use in selected cases.

The decision as to what constitutes the indications for medical or surgical treatment is not as simple as it seems. Surgeons have realized that calculous cholecystitis can be cured in almost 100 per cent, and that the gall bladder without stones submitted to the same treatment produces results not so good.

When the medical handling of biliary tract disease is productive of results comparing favorably with surgical treatment, the selection of cases for medical management can be more easily made.

It is wise to recognize at the outset that gall bladder disease is often the end result of widespread infection. When this is the case, the treatment must be based upon the correction of the underlying cause which may, in itself, take sufficient pressure from the biliary system to restore liver function.

A common-sense rationale of treatment may be instituted in several phases:

1. Diet.
2. Biliary drainage.
3. Removal of causative factors.
4. General hygiene.
5. Correction of intestinal stasis.
6. Drugs.

The diet is by far the most important single factor in the treatment. The chief objects in the selection of a diet are (1) the reduction in the amount of cholesterol and fat, and (2) rest to the diseased gall bladder.

There are many bile constituents, but the chief ones are bile salts (glycocholic and taurocholic acid) and cholesterol. Cholesterol normally remains in solution. In the presence of a diseased gall bladder or when the liver function is diminished, there is a reduction in the quantity of the bile salts, and the cholesterol does not all remain in solution. Crystals form, and the presence of stasis encourages stone formation. It is highly desirable, therefore, to limit the intake of foods containing cholesterol.

In the early days of cholecystography, it was found that the normal gall bladder did not empty the dye after a carbohydrate meal. However, after a fat meal, there was a prompt reduction or disappearance of the gall bladder shadow.

From a clinical angle the same results have been observed. A patient with gall

*Read before the Tri-County Medical Society at McKenzie, Tennessee.

bladder disease may precipitate an attack by the indulgence in a meal rich in fat and cholesterol. It follows then that anything which excites or overstimulates the diseased gall bladder is likely to bring about the recurrence of an attack.

In addition to fats, condiments seem to directly irritate the biliary system. Foods such as raw apples, bananas, cucumbers, radishes, peppers, spices, salad dressings, and gravies should be strictly avoided.

When these foods are eliminated, care must be exercised in furnishing an adequate amount of proteins and minerals, also sufficient calories to maintain the normal weight, and bulk to insure a daily bowel movement.

The following list meets these requirements: vegetable soups, meat broth, lean meats, green vegetables, citrous fruits, cereals, bread, butter, and milk.

It is desirable to avoid overfeeding. Large meals demand the maximum of effort on the part of the digestive organs and disturb liver function by storing away in the liver cells the unused products of digestion. Frequent feedings increase the flow of bile, and four or five small meals are better handled by the digestive organs than two large ones.

2. Drainage of the gall bladder by duodenal intubation has been in use sufficiently long to demonstrate its value. Theoretically, it stimulates gall bladder contraction, clears the ducts, removes infected bile, and decreases stasis. Practically, however, it can have no permanent effect in clearing an intramural infection in the gall bladder wall. In the presence of stones, drainage should be done with caution, and it should never be used immediately following an attack.

Drainage is indicated in chronic gall bladder disease when the symptoms are mild or intermittent, and in catarrhal jaundice after the acute symptoms have subsided. In some of these cases, a single drainage may furnish relief for several weeks at a time. Drainage may also be used to advantage in patients who are poor risks, to increase liver function and drainage while preparing for surgical treatment.

3. Removal of causative factors. Most interesting and important observations have been made concerning the relationship of foci of infection to cholecystitis. The frequency with which they were associated, the occurrence of attacks of acute cholecystitis following acute tonsillitis and the like, the favorable results following removal of foci, and the research work on animals have done much to prove that focal infection often plays a primary role in the production of gall bladder disease.

It has also been observed that infection may travel up the common duct, then by way of the cystic duct to the gall bladder. Also bacteria unfiltered by the liver, arriving by way of the portal vein, may enter the gall bladder. Still another route may be by way of the lymphatics. Infection from a diseased appendix may enter the biliary system in this manner.

It follows then that one of the first considerations in the treatment is the removal of active foci of infection. When the primary focus is removed, the way is cleared for direct attack upon the disease manifest in the gall bladder.

4. General hygiene. Patients with gall bladder disease are usually in a state of lowered resistance due to the toxemia and the inadequate food intake. Many of these patients suffer with exhaustion, headache, and insomnia. At the outset, for a short period, bed rest is desirable. The avoidance of fatigue, moderate exercise in the open air, and for housewives, the relief of household cares for a period will help to restore normal functions and to raise the body resistance.

5. Correction of intestinal stasis. Approximately seventy-five per cent of patients with gall bladder disease are constipated. Defective elimination causes an increase in the toxins passing into the portal system and consequent biliary stasis. This probably accounts for the decided relief many patients obtain following a saline purgative. The bowels should be kept open by the usual means of controlling constipation.

6. Drugs. Drug therapy of every variety has been recommended and used for gall

bladder disease. To Stewart belongs the credit for studying the effect of cholagogues on gall bladder function by actual photographs of the gall bladder reaction. He found that none of the usual drugs had as definite action on emptying the gall bladder as a simple meal. It seems, from his studies, the effect of laxative drugs came directly from the beneficial result of emptying the intestinal tract and only indirectly affecting the gall bladder. Inasmuch as flatulence, stasis, spasm, and constipation are constant accompaniments of this disease, medication directed toward these symptoms is necessary and indicated.

The bile salts are mildly laxative and seem to be the least harmful of the common drugs in use. Recently, decholin, an oxidation product of cholic acid derived from the natural bile salts, has been extensively used. Its action is claimed to be directly on the liver cells, rapidly stimulating the flow of bile. Its chief use is in catarrhal swelling of the liver and bile ducts, but should not be used in obstructive jaundice.

In our hands, decholin has been of distinct value in increasing liver function in the medical treatment of gall bladder disease without obstructive jaundice, and in promoting biliary drainage after cholecystectomy. It should be given in doses of one to two tablets after meals, continued over a period of several months.

Hammond's mixture, a preparation containing pepsin, animal charcoal, and bromides, is very helpful in relieving flatulence, decreasing the discomfort and relaxing the patient.

In middle-aged patients, endocrine therapy plays an important role in the treatment of gall bladder disease. Failure to

recognize an obvious thyroid, pituitary, or ovarian dysfunction, and to institute appropriate therapy for their correction, may spell the difference between success and failure. In women gall bladder sufferers at the menopause who have a hypometabolism, the administration of thyroid extract and theelin exerts a marked beneficial effect on the digestive function.

In the last analysis, medical treatment consists of the removal of underlying causes and the relief of symptoms. To believe that an intramural infection of the gall bladder or a calculous cholecystitis can be cured by medical procedures is to expect too much. However, in early cases where the liver and gall bladder functions have not been much abused, the medical means at our disposal, when properly used, may and will save many patients from serious impairment of health.

There are two groups of patients who must be treated medically. In one group, those patients presenting obviously mild symptoms, and in the other, those who flatly refuse a surgical solution to their problem.

We feel that further progress will come only when the medical profession as a whole realizes the prevalence and seriousness of this disease, and institutes measures which control the individual needs. The chronic biliary sufferer needs an adjustment of his method of living, a recognition of certain dietary procedures, and equally important, a systematic checkup of his condition.

If this plan of medical care is faithfully followed without relieving the patient of his symptoms, surgical procedures should be instituted without further delay to prevent the occurrence of complications or serious impairment of health.

THE INTRAVENOUS USE OF MORPHINE SULPHATE IN TREATMENT

BRUCE R. POWERS, M.D., Knoxville

FOLLOWING the appearance of an article by Betlach of the Mayo Clinic I have used morphine sulphate intravenously as a treatment procedure in various conditions. Although the drug has been used many years by narcotic addicts by this route, it has apparently been used very little by physicians. The *Lancet*, November, 1930, carries a case history by Dr. Frewen Moor in which twenty milligrams (one-third grain) was given intravenously to a patient with coronary thrombosis. The patient was almost immediately relieved of pain. Dr. Moses Salzer reported in 1930 and again in 1938 on the excellent results obtained by administering the drug by this method. Dr. C. J. Betlach of the Mayo Clinic reported in 1937 its use in over 600 cases. He states that its main use has been as an adjunct to regional anesthesia and for its analgesic value in peroral endoscopy. Further indications for its use are visceral colics, cardiac pain, and congestive heart failure. Few other reports are in American medical literature.

I have felt that any condition requiring morphine subcutaneously was sufficient indication to use it intravenously. I have had opportunity to use it chiefly for the relief of pain and dyspnea. The method used for administration is no more complicated than that used for subcutaneous administration. A 1.5 or 2.0 cubic centimeter syringe and a one-half inch hypodermic needle are sterilized. A fifteen-milligram morphine sulphate tablet is placed in the syringe and dissolved in 1.5 cubic centimeter of sterile distilled water in the syringe. A rubber tube is used to produce venous distension. The solution is injected very slowly and the patient is told to state when he becomes comfortable.

Improvement is usually noticed in about one minute and after about one-third of the dose is given. It has been my practice to discontinue the medication when the pa-

tient states that he is comfortable or when definite objective evidence of relief is noted. This usually occurs in two to three minutes following injection of about ten milligrams (one-sixth grain) of the drug. I have seen no unpleasant reactions following this method of administration. A sensation of warmth, dizziness, and drowsiness during administration has been noticed. Respirations become more full and slower. Dyspnea is very definitely relieved. Changes in pulse rate or volume have not been noted. Relief from pain or dyspnea usually lasts three to six hours and is permanent if the causative factor is removed.

Four illustrative case reports are briefly described:

Case No. 1.—A male, white, age fifty-five years, was seen at 12:00 A.M. complaining of severe bandlike pain over his precordium which radiated down his left arm. The duration had been about one to one and one-half hours. He had previously been given two grams (3 grains) sodium amytal with no relief. The patient apparently was in pain when seen. Morphine sulphate fifteen milligrams (one-fourth grain) was prepared and given slowly intravenously. During injection he noticed fullness and a hot sensation in the head. There was no change in pulse rate or volume. He stated that the pain had entirely disappeared before the injection was completed and this was discontinued before fifteen milligrams (one-fourth grain) was given. There was no recurrence of pain following this. Further observation has confirmed the diagnosis of coronary occlusion.

Case No. 2.—A colored female, age forty-five years, was seen at home complaining of severe dyspnea, cough, and pain in the left side. There was a history of a respiratory infection for three weeks, having been diagnosed as bronchopneumonia. The patient was obviously severely ill with rapid,

shallow, grunting dyspneic respirations and apparently she was in pain. Physical signs indicated a full blown pneumonia in the left chest. Morphine sulphate, fifteen milligrams (one-fourth grain), was prepared and given slowly intravenously. As the medication was introduced her dyspnea and rapid breathing noticeably improved and subjectively she stated that her pain was disappearing and before the entire dose was given she was comfortable and drowsy. The effect of the single dose lasted about four hours. Her symptoms and signs did not again appear so intense and no further morphine was given by this route.

Case No. 3.—A white female, age thirty-five years, was seen complaining of a respiratory infection of seven days' duration with pain in the chest, severe cough, and marked difficulty in breathing. There was a past history of pneumonia, bronchial asthma and rheumatic fever. The patient appeared severely ill, had marked dyspnea and slight cyanosis, temperature 103 degrees, pulse 120 per minute, respiratory rate forty per minute. Findings in the chest indicated a bronchopneumonia, mitral stenosis, and bronchial asthma. Morphine sulphate, fifteen milligrams (one-fourth grain), was given slowly intravenously. The patient stated that her pain had disappeared before all the dose was given. Noticeable improvement in breathing occurred during the injection. Medication was repeated once the next day by the same route with similar good results. There were no unpleasant symptoms or alarming signs noted during either injection.

Case No. 4.—A white male, age forty, was seen complaining of severe epigastric pain which began about two hours earlier. With this he had numbness of his legs. He stated that he had had two similar previous attacks. Further questioning elicited a history suggestive of *tabes dorsalis*. The patient did not appear to be severely ill, though he was evidently in pain. Pupils were irregular, though they both reacted to light. No tenderness was felt through the abdomen. There was no rigidity or masses felt. Patellar tendon reflexes were absent. There was ataxia of the upper and lower extremities. Morphine sulphate, fifteen milligrams (one-fourth grain), prepared and given slowly intravenously. Patient became comfortable when ten milligrams (one-sixth grain) was given, and the dose was discontinued. During administration he remarked upon a feeling of warmth. There was no recurrence of that particular attack.

COMMENT AND CONCLUSION

Morphine sulphate in doses of ten to fifteen milligrams (one-sixth to one-fourth grain) has been given intravenously in a number of cases and four case histories are briefly outlined. The effect of the drug is quickly obtained and the dosage can be very accurately controlled. No unpleasant reactions have been noted. The chief indications for using the drug by this route are severe pain, dyspnea, traumatic shock, allergic reactions and as an aid in anesthesia. Contraindications are similar to those associated with the subcutaneous route of administration. Further use of the drug by this method is suggested.



CONSTITUTION AND BY-LAWS OF THE TENNESSEE STATE MEDICAL ASSOCIATION

CONSTITUTION

ARTICLE I

NAME OF THE ASSOCIATION

The name and the title of this organization shall be "The Tennessee State Medical Association."

ARTICLE II

PURPOSES OF THE ASSOCIATION

The purposes of this Association shall be to federate and bring into one compact organization the entire medical profession of the State of Tennessee and to unite with similar associations in other states to form the American Medical Association, with a view to the extension of medical knowledge, and to the advancement of medical science, to the elevation of the standard of medical education, and to the enactment and enforcement of just medical laws, to the promotion of friendly intercourse among physicians and to the guarding and fostering of their material interests, and to the enlightenment and direction of public opinion in regard to the great problems of state medicine so that the profession shall become more capable and honorable within itself and more useful to the public in the prevention and cure of disease and in prolonging and adding comfort to life.

ARTICLE III

COMPONENT SOCIETIES

Component Societies shall consist of those local Medical Societies which hold charters from this Association.

ARTICLE IV

COMPOSITION OF THE ASSOCIATION

SECTION 1. This Association shall consist of Active Members, Associate Members, Veteran Members, and Honorary Members.

SEC. 2. The Active Members of this Association shall be the active members of the Component Medical Societies who have been certified to the Secretary of this Association and whose dues have been paid for the current year.

SEC. 3. Associate Members shall be commissioned officers in active service of the U. S. Army, Navy, and Public Health Service, residing in the State, who are elected to membership by a component Society and certified to the Secretary of the State Association as an Associate Member.

SEC. 4. Veteran Members are those who, because of age or impaired health, have been elected Veteran Members of their component societies, and who are so certified to the State Association annually by the component societies.

SEC. 5. An Honorary Member is one who is a member of another State Association, or other reputable society, who is pre-eminent in general or special scientific work, whose name, with detailed information concerning his education and professional qualification, is presented in writing by three members of this Association, and who is elected by a two-thirds vote of the House of Delegates.

ARTICLE V

HOUSE OF DELEGATES

The House of Delegates shall be the legislative and business body of the Association, and shall consist of (1) Delegates elected by the component Societies; (2) ex-officio the Officers; (3) the ex-Presidents of the Association in attendance at that session.

ARTICLE VI

SECTIONS

The House of Delegates may provide in the By-Laws for a division of the scientific work of the Association into appropriate Sections as the need may arise.

ARTICLE VII

ANNUAL MEETINGS AND SESSIONS

SECTION 1. The Association shall hold an Annual Meeting at such time and place as hereinafter provided, and the Scientific Sessions shall be open to all registered members and guests.

SEC. 2. The Scientific Session shall begin on the second Tuesday in April, except

as provided in Chapter II, Section 3, of the By-Laws. The Sections shall determine the dates of their meetings.

SEC. 3. The place for holding each Annual Meeting shall be fixed by the House of Delegates provided the meetings shall rotate regularly to the three grand divisions of the State.

ARTICLE VIII

OFFICERS

SECTION 1. The Officers of the Association shall be a President, a Vice-President for each of the three grand divisions of the State, a Secretary-Editor, five Trustees, ten Councilors, and a Speaker of the House of Delegates. The Speaker of the House of Delegates shall be ex-officio a member of the Board of Trustees while in office. The retiring President of the Association shall be a member of the Board of Trustees for one year. Three members of the Board of Trustees shall be elected by the House of Delegates, one from each grand division of the State. The elected Trustees shall serve for a period of three years. The Board of Trustees will organize by the election of a Chairman. The Chairman of the Board of Trustees shall be ex-officio Treasurer of the Association. There shall be one Councilor for each Councilor District. The Councilors shall organize annually by the election of a Chairman of the Council.

SEC. 2. The President, three Vice-Presidents, Speaker of the House of Delegates, and the Secretary-Editor shall be elected annually for one year. Five Councilors shall be elected annually for two years.

SEC. 3. The President, Secretary, and Speaker of the House of Delegates shall be ex-officio members of the Council.

SEC. 4. Every Officer shall hold office until his successor is elected and assumes office.

SEC. 5. All Officers of the Association, except the Councilors, shall be elected on the third day of the Annual Meeting, and shall assume office when elected.

SEC. 6. No Member who has not been a member in good standing for five years next preceding the election, or who is not in attendance at the meeting, shall be eli-

gible for election as President or Vice-President.

ARTICLE IX

THE POWERS AND DUTIES OF THE BOARD OF TRUSTEES

SECTION 1. The Board of Trustees shall have entire control of the publication, the policy and the editorial and financial management of the Journal of the Association. It shall be authorized and empowered to make all contracts necessary for the conduct of the Journal.

SEC. 2. The Treasurer of this Association shall be the custodian of all the funds of the Association.

SEC. 3. The Board shall hold semiannual meetings, one of which shall be held on the last day of the Annual Meeting, and such other meetings as the business of the Association may require, subject to the call of the Chairman. The Board of Trustees shall make all expenditures of the funds of the Association, except as ordered by the House of Delegates, and render at the Annual Meeting a full and detailed accounting of all receipts and disbursements. In the event of a vacancy by death or resignation of any member of the Board of Trustees between the Annual Sessions of the Association, the Vice-President for that division of the State in which the vacancy occurs, shall serve as a member of the Board until the next Annual Meeting.

SEC. 4. The Board of Trustees shall serve without compensation, except the Chairman, who is ex-officio the Treasurer, whose compensation shall be fixed by the House of Delegates; however, their actual expense in attending the meetings of the Board shall be paid out of the funds of the Association. This is not to apply where a meeting is held at the Annual Session.

ARTICLE X

FISCAL YEAR AND DUES

SECTION 1. The fiscal year of the Association shall be from January 1 to December 31.

SEC. 2. The annual dues of Active Members shall be fixed in the By-Laws. No dues shall be paid by Veteran or Honorary Members.

ARTICLE XI

REFERENDUM

The General Meeting of the Association may, by a two-thirds vote of the members present and voting, order a general referendum upon any question pending before, or already decided by the House of Delegates. The House of Delegates may, by a similar vote of its own members, or after a vote of the general meetings, submit any such question to the membership of the Association for a final vote. If the persons voting shall comprise a majority of all the members registered at that Annual Session, a majority of such vote shall determine the question and be binding upon the House of Delegates.

ARTICLE XII

THE SEAL

The Association shall have a common seal, with the power to break, change or renew the same at pleasure, by action of the House of Delegates.

ARTICLE XIII

AMENDMENTS

The House of Delegates may amend any article of this Constitution by a two-thirds vote of the Delegates registered at that Annual Session; provided that such amendment shall have been presented in open meeting at the previous Annual Session, and that it shall have been sent officially to each component Society at least two months before the Session at which final action is to be taken.

BY-LAWS

CHAPTER I

MEMBERSHIP AND SECTIONS

SECTION 1. All Active Members, Associate Members, Veteran Members, Honorary Members, and invited guests shall be privileged to attend all scientific meetings and take part in the discussion of all scientific questions, but Active Members and Veteran Members only shall be entitled to vote and hold office.

SEC. 2. The name of a physician upon a properly certified roster of Members, or list of Delegates, of a chartered component Society, which has paid its annual assess-

ment, or a guest whose name is on the program, shall be prima facie evidence of his right to register at the Annual Session.

SEC. 3. No person who is under sentence of suspension or expulsion from any component Society of this Association, or whose name has been dropped from its roll of members shall be entitled to any of the rights or benefits of this Association, nor shall he be permitted to take any part in any of its proceedings until such time as he has been relieved of such disability.

SEC. 4. Each Member in attendance at the Annual Session shall enter his name on the registration book or card, indicating the component Society of which he is a member. When his right to membership has been verified, by reference to the roster of his society, he shall receive a badge, which shall be evidence of his right to all the privileges of membership at that session. No Member or Delegate shall take part in any of the proceedings of an Annual Session until he has complied with the provisions of this section.

SEC. 5. There shall be in addition to the general Scientific Assembly:

(1) A Section for Specialist on Eye, Ear, Throat, and Nose, to be known as the Section of Eye, Ear, Nose, and Throat.

(2) A Section for specialist on Railroad and Industrial Surgery, to be known as the Tennessee Association of Railway Surgeons, which sections may hold separate or joint sessions at the place of the Annual Session of the Association. They shall meet on the day of their choice for the discussion of such technical questions as would not be of general interest to the Scientific Assembly.

(3) The officers of a Section shall be a Chairman, a Vice-Chairman, and a Secretary, each of whom shall be elected annually by a majority vote of the Section.

(4) The date and opening hour of the meeting of the Sections shall be determined by the Section.

CHAPTER II

ANNUAL AND SPECIAL SESSIONS OF THE ASSOCIATION

SECTION 1. The Association shall hold an Annual Session on the second Tuesday

in April, and at such place as has been fixed at the preceding Annual Session, but it is agreed that the meetings shall rotate annually to Middle, West, and East Tennessee.

SEC. 2. Special sessions of either the Association or House of Delegates shall be called by the President at his discretion, or upon petition of twenty Delegates.

SEC. 3. If for any valid reason, local or otherwise, an Annual Meeting cannot be held on date as named, the President, the three Vice-Presidents, the Secretary, and the Board of Trustees may fix another date, provided the Secretaries of component Societies are notified in advance of the changed date by the Secretary of the Association and, if feasible, each Member shall be notified by a personal communication mailed to his home address.

CHAPTER III

GENERAL MEETINGS

SECTION 1. The General Meeting shall include all registered active Members, Associate Members, Veteran Members, Honorary Members and guests, all of whom shall have equal rights to participate in the proceedings and discussions. Each General Meeting shall be presided over by the President, or, in his absence or disability, or by his request, by one of the Vice-Presidents. Before it, at such time and place as may have been arranged, shall be delivered the Annual Address of the President and the annual orations; and the entire time of the session, so far as possible, shall be devoted to papers and discussions, clinics, and demonstrations, relating to scientific medicine.

SEC. 2. The General Meeting shall have authority to create committees or commissions for scientific investigation of special interest and importance to the profession and public, and to receive and dispose of reports of the same, but any expense in connection therewith must first be authorized by the House of Delegates.

SEC. 3. Except by special vote, the order of exercises, papers, and discussions as set forth in the official program, shall be followed from day to day until it has been

completed, and all papers omitted may be recalled in regular order.

SEC. 4. No address or paper before the Association, except the addresses of the President and invited guests, shall occupy more than twenty minutes in its delivery; and no Member shall speak longer than five minutes, nor more than once on the same subject, provided each essayist be allowed five minutes in which to close the discussion.

SEC. 5. All papers read before the Society shall be its own property. Each paper shall be deposited with the Secretary when read.

SEC. 6. The Committee on Arrangements shall consist of such a number of the component Society of the city in which the Annual Session is to be held as that Society may determine. It shall, by committees of its own selection, provide suitable accommodations for the meeting places of the Association, its Sections, and the House of Delegates, and of their respective Committees, and shall have general charge of all the arrangements, subject to the approval of the Association. Its Chairman shall report an outline of the arrangements to the Secretary for publication in the program, and shall make additional announcements during the Session as occasion may require.

CHAPTER IV

HOUSE OF DELEGATES

SECTION 1. The House of Delegates shall meet annually at the time and place of the Annual Session of the Association. It shall meet at two o'clock Tuesday afternoon, and morning and afternoon thereafter until its work is finished, and at such hours as are determined by the House. If the business interests of the Association require, it may meet in advance or remain in session after the final adjournment of the General Meeting, such extraordinary meetings being subject to the call of the Speaker of the House of Delegates.

SEC. 2. Each Component Society shall be entitled to send to the House of Delegates each year one delegate for every fifty members, and one for every fraction thereof; but each County Society holding a charter from this Association, which has made

its annual report, and paid its assessments as provided in this Constitution and By-Laws, shall be entitled to one Delegate.

SEC. 3. A majority of the registered Delegates shall constitute a quorum, and all the meetings of the House of Delegates shall be open to Members of the Association.

SEC. 4. From among members of the House of Delegates the Speaker of the House of Delegates, for the purpose of expediting proceedings, shall appoint Reference Committees to which reports and resolutions shall be referred. He shall also appoint a Committee on Credentials and such other committees as may be considered by him to be necessary.

SEC. 5. It shall elect representatives to the House of Delegates of the American Medical Association in accordance with the Constitution and By-Laws of that body, for a period of three years, no two residing in the same grand division of the State. The Association shall pay the expenses of each Delegate representing the Association at the American Medical Association meetings.

SEC. 6. It shall, upon application, provide and issue charters to component Societies organized to conform to the spirit of this Constitution and By-Laws and rescind the charter of any component Society not conforming with the Constitution and By-Laws of the Association, or the ethics of the American Medical Association, when so recommended by the Councilors.

SEC. 7. In sparsely-settled sections it shall have authority to organize the physicians of two or more counties into one component Society, to be designated by hyphenating the names of two or more counties, so as to distinguish them from district and other classes of Societies; and these Societies, when organized and chartered, shall be entitled to all the privileges and representation provided herein for component Societies.

SEC. 8. It shall have authority to appoint special committees for special purposes from its own membership, or from among members of the Association who are not members of the House of Delegates; and

such committeemen shall report to the House of Delegates in person, and may participate in the debate thereon.

CHAPTER V

ELECTION OF OFFICERS

SECTION 1. All elections shall be by ballot, and the majority of the votes cast shall be necessary to elect.

SEC. 2. On the first day of the Annual Session the Delegates from each of the three grand divisions shall select three Delegates from their respective divisions to serve as a Committee on Nominations, no two of whom shall be from the same County. It shall be the duty of this Committee to consult with other members in selecting candidates for the offices, and to hold one or more meetings, at which the best interests of the Association and of the profession of the State for the ensuing year shall be carefully considered. The Committee shall report the result of its deliberations to the House of Delegates in the form of a ticket containing the names of three Members for the office of President, all in the same grand division of the State from which the President is to be elected, and of one Member for each of the other offices to be filled at that Annual Session, except the Councilors. (For list of officers and terms of election, see Article VIII of the Constitution.)

SEC. 3. The Councilors shall be elected on the second day of the meeting after their report is made to the House of Delegates, so that they may reorganize and plan the year's work. The nominations of councilors may be made by the Nominating Committee or by any Delegate.

SEC. 4. The report of the Nominating Committee and the election of officers, except the Councilors, shall be the first order of business of the House of Delegates, after the reading of the minutes on the morning of the third day of the General Session.

SEC. 5. Nothing in this article shall be construed to prevent additional nominations being made by members of the House of Delegates.

SEC. 6. In balloting for the nominees for President, if on the first ballot no one receives a majority of the votes cast, the name receiving the smallest number of votes shall be dropped, and the balloting shall proceed in this manner until an election is had.

CHAPTER VI

DUTIES OF OFFICERS

SECTION 1. The President shall preside at all meetings of the Association, shall appoint all members of Committees not otherwise provided for, shall deliver an Annual Address at such time as may be arranged, shall give a deciding vote in case of a tie, and shall perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession of the State during his term of office, and, as far as practicable, shall visit, by appointment, the various Sections of the State and assist the Councilors in building up the County Societies and in making their work more practical and useful. The retiring President shall be ex-officio a member of the Board of Trustees for one year.

SEC. 2. The Vice-President shall assist the President in the discharge of his duties. In the event of his death, resignation, or removal of the President, the Vice-President to succeed him shall be from the same Grand Division of the State.

SEC. 3. The Treasurer shall give bond for the trust reposed in him, for such amount as the Board of Trustees may name, said bond to be made by a regular bonding company, and paid for by the Association. He shall demand and receive all funds due the Association, together with bequests and donations. All funds shall be deposited in a National Bank. He shall pay money out of the treasury on bills certified to by the Secretary of the Association only; he shall subject his accounts to such examination as the House of Delegates may order; he shall annually render an account of his doings and of the state of the funds in his hands. The compensation of the Treasurer shall be one hundred dollars (\$100.00) per annum as an honorarium.

SEC. 4. The Secretary of this Association shall devote his whole or part time to

the interest of the State Association. He, as Chairman, acting with the Committee on Scientific Work, shall prepare and issue the programs for and attend the meetings of the Association and the House of Delegates, and shall keep the Minutes, or cause them to be kept, of their respective proceedings. He shall be custodian of all records, books, and papers belonging to the Association, except such property belonging to the Treasurer, the Council, the Sections, and the various Committees, and shall keep account of and promptly turn over to the Treasurer all funds of the Association which come into his hands; he shall provide for the registration of Members and Delegates at the Annual Session; and, upon request, shall transmit a copy of this list to the American Medical Association. In so far as in his power, he shall use the printed matter, correspondence, and influence of his office to aid the Councilors in the organization of the component Societies and in the extension of the power and influence of this Association. He shall visit each Councilor District at least once a year and oftener, if advisable, and assist the Councilors in organizing unorganized counties, and use every means possible to promote the interest of the Association. Should the Secretary and Councilor deem it wise to organize two or more counties into one Society, they shall have the right to take such action and such Societies shall be recognized by the State Association. He shall conduct the official correspondence, notifying Members of meetings, Officers of their election, and Committees of their appointment and duties. He shall be Editor of the Journal of the Association, unless a special Editor is otherwise provided, and shall discharge such other duties as the Trustees shall direct. His salary shall be, determined by the Trustees. The Trustees shall be empowered to select a part or whole-time Assistant Secretary and remove him at pleasure. The Assistant Secretary may or may not have been a Member of this Association and may or may not be a graduate in medicine.

SEC. 5. The Speaker of the House of Delegates shall preside over that body and

perform the usual duties of such officer. He shall sign the Minutes of its transactions when same have been read and approved by the House. In the event of his absence for any cause, the House of Delegates shall elect a Temporary Chairman for such time as it may choose. He shall also be ex-officio member of the Board of Trustees.

SEC. 6. In the absence of the Secretary, the House of Delegates may elect a Temporary Secretary.

SEC. 7. In the event of the death, resignation, disability, or removal of any official of this Association, other than the President, or a member of the Board of Trustees, the vacancy so created shall be filled by the Board of Trustees, and the officer so appointed shall serve until the next regular meeting of the House of Delegates.

CHAPTER VII

COUNCIL

SECTION 1. The Council shall hold meetings during the Annual Session of the Association, and at such other times as necessity may require, subject to the call of the Chairman or on petition of three Councilors. It shall meet after the election of Councilors on the second day of the Annual Session for the reorganization, and for the outlining of work for the ensuing year. At this meeting it shall keep a permanent record of its proceedings. Five Councilors shall constitute a quorum.

SEC. 2. Each Councilor shall be organizer, peacemaker, and censor for his District. He should visit each County in his District at least once a year for the purpose of organizing component Societies where none exist; for inquiring into the condition of the profession, and for improving and increasing the zeal of the component Societies and their members; he shall make an annual report of his doings and of the condition of the profession of each County in his District to each Annual Session of the House of Delegates. The necessary traveling expenses incurred by such Councilor in the line of the duties herein imposed may be allowed by the Board of Trustees upon a properly itemized

statement, but this shall not be construed to include his expense in attending the Annual Session of the Association.

SEC. 3. Collectively the Council shall be the Board of Censors of the Association. It shall consider all questions involving the rights and standing of Members, whether in relation to other Members, to component Societies, or to this Association. All questions of an ethical nature brought before the House of Delegates, or the General Meeting, shall be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the conduct of Members, or of a County Society upon which an appeal is taken from the decision of an individual Councilor. Its decision in all such cases shall be final. It shall make such report or recommendations to the House of Delegates as it deems to be the best interest of the Association.

CHAPTER VIII

COMMITTEES AND THEIR DUTIES

SECTION 1. (a) The Committees of this Association shall be Standing and Special Committees. The Standing Committees shall be as follows:

1. A Committee on Scientific Work.
2. A Committee on Public Policy and Legislation.
3. A Committee on Medical Defense.
4. A Liaison Committee.
5. A Committee on Memoirs.
6. An Insurance Committee.
7. A Committee on Education.
8. A Committee on Maternal Welfare.
9. A Committee on Child Welfare.
10. A Committee on Tuberculosis.
11. A Committee on Cancer.
12. A Committee on Fractures.
13. A Committee on Industrial Hygiene.
14. A Committee on Physical Therapy.
15. A Committee on Hospitals.

(b) The members of these standing committees shall be appointed by the Board of Trustees. The terms of service of members of standing committees shall be for a period of one to three years except when otherwise provided in the By-Laws.

The appointments shall be made for such a period of years that the terms of not more

than two members will terminate each year. Each standing committee shall make a report to the House of Delegates at each Annual Session.

(c) Special Committees may be appointed from time to time by the President or the Board of Trustees to carry on special activities.

SEC. 2. The Committee on Scientific Work shall consist of four members, three members appointed. The Secretary shall be a member, and Chairman of the Committee. It is the duty of this Committee to plan and provide the scientific program for each Session of the Association. Previous to each Annual Session it shall prepare and issue a scientific program which shall be adhered to by the Association as nearly as practicable.

SEC. 3. The Committee on Public Policy and Legislation shall consist of seven members, five to be appointed by the Board of Trustees, and ex-officio the President and Secretary. Under the direction of the House of Delegates, it shall represent the Association in securing and enforcing legislation in the interest of the public health and of scientific medicine. It shall keep in touch with professional and public opinion, shall endeavor to shape legislation so as to secure the best results for the whole people, and shall utilize every organized influence of the profession to promote the general influence in local, state, and national affairs and elections. Its work shall be done with the dignity becoming a great profession, and with that wisdom which shall make effective its power and influence. It shall have authority to be heard before the entire Association upon questions of great concern at such times as may be arranged during the Annual Session.

SEC. 4. The Committee on Medical Defense shall consist of three members, one from East, Middle, and West Tennessee, to be elected for three years by the Board of Trustees, so arranged that one is elected each year, but a vacancy shall be filled for the unexpired term by the House of Delegates at any Annual Session. It shall be the duty of this Committee to manage the defense of malpractice suits against Mem-

bers of the Association in good standing who have paid the Defense Fee of such an amount as has been named by the House of Delegates, said defense to be covered only for the time for which the fee covered, only alleged malpractice suits shall be defended, and the Association shall not be liable for any judgment against the defendant, but only for reasonable fees of attorneys employed by the Committee, and for usual court costs incident to defense of the case. The Committee shall have authority to make such rules and regulations in the conduct of their work as they deem to be for the best interests of the Association. The Committee shall keep a careful record of all suits referred to it, and all expenses incurred, and make full report of its work to each Annual Meeting of the House of Delegates. The Committee shall elect one of its members Chairman. All suits shall first be referred to the Chairman of the Committee. All bills incurred and certified to by the Chairman shall be transmitted through the Secretary of the Association and paid by the Treasurer. The Medical Defense Committee shall be furnished by the Treasurer a statement of the financial status of the medical defense fund at any time upon request.

SEC. 5. The Liaison Committee shall consist of five members, to be appointed by the Board of Trustees of the Association and who shall name (one member) Chairman of the Committee for the period of the appointee's term of office. At least one member shall be from each grand division of the State. One member shall be appointed for a period of five years; one for four years; one for three years; one for two years; and one for one year. Thereafter, one member shall be appointed annually for a period of five years.

It shall be the duty of this Committee to confer with the officials of the Department of Health of the State in matters of policy affecting the profession of the State; and it shall be the further duty of this Committee to confer with any member or members of this Association in matters concerning the activities of the Department of Health of the State. Provided, that all matters

over which this Committee shall have jurisdiction shall be presented to the Committee, through its Chairman, in writing.

It shall be the duty of the Committee to make a detailed annual report to the House of Delegates of its activities; said report being subject to review by the House of Delegates. In the interval between the annual meetings of the House of Delegates the action of this Committee by a majority vote shall be final.

In the event of a vacancy in the membership of the Committee by any cause, said vacancy shall be filled by appointment by the Board of Trustees, said appointee assuming the position on the Committee for the unexpired term of the member whom he succeeds. The House of Delegates directs the Liaison Committee to act in an advisory manner to the Board of Health as now constituted, in the matter of formation of all policies.

SEC. 6. The Committee on Memoirs shall perform such duties as will contribute to the proper recognition of deceased members, who have made noteworthy contributions to the advancement of organized medicine in Tennessee.

SEC. 7. The Committee on Insurance shall consist of three members, one from East, one from Middle, and one from West Tennessee, to be elected by the Trustees of the Association. One member shall be elected for one year, one for two years, and one for three years. Thereafter one member shall be elected annually for a term of three years. Any vacancy shall be filled for any unexpired term that might occur by the Board of Trustees at any Annual Session.

It shall be the duty of this Committee to attend to all group insurance in which this Association is or may become interested. It shall have power to select insuring companies, accept or reject master policies, arrange premium rates, and act as trustees for this Association in the matter of such group insurance.

All actions of the Committee shall be subject to the approval of the Board of Trustees.

The Committee shall elect one of its members Chairman. He shall report to the House of Delegates at each annual session upon the activities of the Committee during the preceding year. All necessary expenses of the Committee in the performance of its duties shall be paid by the Treasurer of this Association upon certification of the expenses by the Chairman of the Committee, but this shall not apply to attendance at meetings held at the Annual Session.

SEC. 8. The Committee on Medical Education shall give consideration to the subject of medical education. This shall embrace undergraduate medical education, postgraduate medical education, and the education of the lay public on medical questions.

It shall also consider and give attention to programs of medical education carried on by agencies other than the medical profession, with a view to determining their effectiveness from the standpoint of public benefit and from the standpoint of the possible harmful effects they may have. It shall be the duty of this Committee to promote postgraduate activities among members of the Association.

This Committee should act in an advisory capacity to other committees of the Association whose activities relate to the education of the public on medical subjects, such for example as the Committee on Cancer, the Committee on Tuberculosis, the Committee on Maternal Welfare, and the Committee on Child Welfare, with the end in view of preserving uniformity of action in all the educational activities carried on in the name of the Tennessee State Medical Association.

SEC. 9. The Committee on Cancer shall promote educational activities directed at two objectives: (a) the fullest possible knowledge on the part of the medical profession concerning the recognition of malignancy in its early states, and (b) the disposition on the part of lay people to consult a well-qualified physician when a condition presents which may be an early malignancy.

SEC. 10. The Committee on Maternal Welfare shall promote educational activities among doctors and lay people calculated to stimulate doctors to deliver the best medical care possible under any and all circumstances, to obstetrical patients, and to stimulate the public to a fuller appreciation of the benefits to be derived from adequate obstetrical care.

SEC. 11. The Committee on Child Welfare shall promote such educational activities as will increase the dissemination of knowledge on the subject of pediatrics among members of the medical profession, and educational programs for lay people designed to increase their knowledge of the importance of appropriate pediatric care by the physician.

SEC. 12. The Committee on Tuberculosis shall study the subject of tuberculosis as a medical problem and as a sociological problem. It will be its duty to observe the educational programs carried on by agencies other than the medical profession on the subject of tuberculosis and to use its good offices to keep these programs on a sound scientific basis. It will be the duty of the Committee to make recommendations from time to time to the House of Delegates concerning actions the Association may take, looking to a more effective control of this disease and to its ultimate eradication.

SEC. 13. The Committee on Fractures shall take such prudent steps as it may to promote a more thorough understanding of the subject of fractures within the medical profession, and to cooperate with other similar committees with similar purposes.

SEC. 14. The Committee on Industrial Hygiene shall cooperate with a like committee of the American Medical Association and with other groups in giving consideration to the subject of Industrial Hygiene. It shall make recommendations to the House of Delegates from time to time for appropriate action on this subject.

SEC. 15. The Committee on Physical Therapy shall give consideration to the subject of physical therapy, and in cooperation with the Council on Physical Therapy of the American Medical Association, shall

promote sound practices in the field of Physical Therapy.

SEC. 16. The Committee on Hospitals shall consider all matters relating to the operations of hospitals as the same may affect the medical profession and the public welfare. It shall make recommendations to the House of Delegates when in its judgment action should be taken on any matter pertaining to the policies enforced in the operation of a hospital.

The principal objective of this Committee is that of preserving a proper relationship between the medical profession and the hospitals in the State. When policies are formulated and enforced by a hospital, which in the opinion of the Committee constitute a violation of the ethical principle which should govern the relationship of a hospital to members of the medical profession and the public, it shall be its duty to bring the matter to the attention of the medical profession and to take such other steps as are deemed necessary and appropriate to correct the practice.

The Committee is charged with the duty of recommending legislation on the subject to the House of Delegates should such a step be considered advisable.

CHAPTER IX

ASSESSMENTS AND EXPENDITURES

SECTION 1. An assessment of \$6.00 per capita on the active membership of the component Societies is hereby made the annual dues of Members and subscription to the Journal of this Association; provided the component Society does not include in its Honorary Membership any physician residing within the State, and who is not a member of another component Society; and, provided, it includes in its Veteran list only physicians who have been elected by such component Society and the Journal is to be furnished them without cost.

SEC. 2. The Secretary or Treasurer of each component Society shall forward a roster of all Officers, a list of Delegates and Members, and a list of nonaffiliated physicians of the County if practicable, also a list of Members who have died during the

year, to the Secretary of this Association thirty days in advance of the Annual Session.

SEC. 3. The Secretary or Treasurer of each component Society shall collect and forward to the Secretary of this Association the assessment of \$6.00 per capita for each Member, except Associate, Veteran, or Honorary Members, not later than fifteen days before the opening of each Annual Session.

CHAPTER X

RULES OF CONDUCT

The principles set forth in the Code of Ethics of the American Medical Association shall govern the conduct of Members in their relations to each other and to the public.

CHAPTER XI

The deliberations of this Association shall be governed by parliamentary usage as contained in Robert's "Rules of Order."

CHAPTER XII

COUNTY SOCIETIES

SECTION 1. All County Societies now in affiliation with the State Association, or those that may hereafter be organized in this State, which have adopted principles of organization not in conflict with this Constitution and By-Laws, may, upon application to the House of Delegates, receive a charter from and become a component part of this Association.

SEC. 2. Charters shall be issued only upon approval of the House of Delegates, and shall be signed by the President and Secretary of this Association. The House of Delegates shall have authority to revoke the charter of any component Society, whose actions are in conflict with the letter or spirit of this Constitution and By-Laws, or the code of ethics of the American Medical Association upon recommendation of the Council.

SEC. 3. Each component Society shall judge of the qualifications of its own members; but as such Societies are the only portals to this Association, and to the American Medical Association, every reputable and legally registered physician, who is practicing or who will agree to practice

nonsectarian medicine, shall be entitled to membership. Before a charter is issued to any component Society, full and ample notice and opportunity shall be given to every such physician in the County to become a member.

SEC. 4. Only one component Medical Society shall be chartered in any County. When more than one County Society exists, friendly overtures and concessions shall be made, with the aid of the Councilor for the District, if necessary, and all of the members brought into one organization. In case of failure to unite, an appeal may be made to the Council, which shall decide what action shall be taken.

SEC. 5. Any physician who may feel aggrieved by the action of the Society in his County in refusing him membership, or in suspending or expelling him, shall have the right to appeal to the Council.

SEC. 6. In hearing appeals, the Council may admit oral or written evidence, as in its judgment will best and more fairly present the facts, but in the case of every appeal, both as a board and as individual Councilors in District and County Work, efforts at conciliation and compromise should precede all such hearings.

SEC. 7. When a Member in good standing in a component Society moves to another County in the State, his name, upon request, and with the consent of his component Society, shall be transferred, without cost, to the roster of the component Society in whose jurisdiction he moves.

SEC. 8. A physician living on or near a County line may hold his membership in that County most convenient for him to attend, on permission of the Society in whose jurisdiction he resides, and with consent of his Councilor.

SEC. 9. Each component Society shall have general direction of the affairs of the profession in the County or Counties and its influence shall be constantly exerted for bettering the scientific, moral, and material condition of every physician in the County; and systematic effort shall be made by each member, and by the Society, as a whole, to increase the membership until it embraces every qualified physician in the County.

SEC. 10. Frequent meetings shall be encouraged, and the most attractive programs arranged that are possible. The younger members shall be especially encouraged to do postgraduate and original research work and to give the Society the benefit of such labors. Official position and other preferments should be unstintingly given to such members.

SEC. 11. At some meetings in advance of the Annual Session of this Association, each component Society shall elect a Delegate or Delegates to represent it in the House of Delegates of this Association, in the proportion of one Delegate and one alternate to each fifty members or fraction thereof; and the Secretary of the Society shall send a list of such Delegates to the Secretary of this Association at least ten days before the Annual Session.

SEC. 12. The Secretary of each component Society shall keep a roster of its members and shall furnish an official report of the membership to the Secretary of this Association at least once each year and oftener if circumstances as to membership may require. The Secretary shall note any changes in the personnel of the membership, with special reference to changes due to death and removal from the district.

CHAPTER XIII

AMENDMENTS

These By-Laws may be amended at any Annual Session by a majority vote of all the Delegates present at that Session after the amendment has been made in writing and has been laid upon the table for one day.

THE JOURNAL

OF THE

TENNESSEE STATE MEDICAL ASSOCIATION

Devoted to the Interests of the Medical Profession of Tennessee
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H. H. SHOULDERS, M.D., Editor and Secretary

FEBRUARY, 1939

THE ISSUE

SHALL PATIENTS AND DOCTORS RETAIN THEIR FREEDOM OF JUDGMENT IN THE MATTER OF MEDICAL CARE, OR SHALL THIS FREEDOM BE SURRENDERED TO SOME GOVERNMENTAL AGENCY?

EDITORIAL

POSTGRADUATE COURSE FOR PHYSICIANS

The need for postgraduate work in medicine has been recognized alike by practicing physicians and by educational institutions.

The profession of medicine, with the generous cooperation of the Commonwealth Fund and three institutions in the state, has carried out a program of postgraduate work to the physicians in their respective communities. Even though this work was related to one subject (obstetrics) only, its worth-whileness has been demonstrated.

A postgraduate course in pediatrics, conducted along similar lines, under the same auspices, is soon to begin.

For those whose circumstances will permit them to take a more extensive course, touching other subjects in the field of medicine, the Commonwealth Fund is offering exceptional opportunities.

Attention is called to an announcement in the news items of this issue of the JOURNAL on this subject.

It will be noted that the courses last for

one month each, and two series of courses are given during the summer. Those who are accepted for the course will receive traveling expenses, tuition, and a monthly stipend.

THE STATE MEETING

The one hundred sixth annual meeting of the Tennessee State Medical Association will take place in Jackson, Tennessee, April 11, 12, 13, 1939.

Preparations for the meeting are well advanced.

The New Southern Hotel has been designated the headquarters.

The local committee on arrangements, under the direction of Dr. J. R. Thompson, Jr., is alert in making preparations.

The program committee this early has a scientific program almost completed. In fact, the program committee has not been able to accept all the volunteers for papers.

In our opinion, the program covers a wide variety of subjects of practical interest to that group of doctors commonly referred to as "general practitioners."

The guest list embraces such prominent names in American medicine as Drs. Rock Sleyster, Wauwatosa, Wisconsin, president-elect of the American Medical Association; Fred Rankin, Lexington, Kentucky; Leon J. Menville, New Orleans; Clarence H. Crego, St. Louis; and J. B. McLester, Birmingham, Alabama.

It is no longer possible for doctors to devote their thinking to scientific questions alone. Many new movements have been set in motion which may affect profoundly the profession of medicine.

We must be alert and sensible to the responsibilities and obligations which rest on the profession of medicine today. For these reasons it is of the utmost importance that every doctor take a keen interest in all the affairs which are the legitimate concern of doctors.

A large attendance is expected.

NEWS NOTES AND COMMENTS

Dr. Theodore Morford announces the removal of his office on January 10, 1939, to

Twentieth Avenue and Hayes Street, Nashville.

Dr. James P. Anderson announces the removal of his office to 314-16 Doctors Building, Nashville.

POSTGRADUATE COURSES OFFERED TO PHYSICIANS IN TENNESSEE

Announcement is made by the Vanderbilt University Medical School that a new series of postgraduate courses at that institution will be available to physicians in Tennessee under the auspices of the Commonwealth Fund of New York. Courses of one month's duration each in medicine, surgery, pediatrics, and obstetrics will be given. Courses in medicine and surgery will be given concurrently during the first month, and pediatrics and obstetrics during the second month. Thus it will be possible to secure two courses during a period of two months, one in either medicine or surgery, and one in pediatrics or obstetrics. Additional courses may be taken in subsequent years. The dates for the courses during 1939 are as follows:

Medicine and surgery, June 15 through July 17; pediatrics and obstetrics, July 17 through August 17.

Holders of fellowships will be provided with tuition and travel expenses and in addition will be given a monthly stipend. These fellowships offer an exceptional opportunity to secure postgraduate training in the broad fields of medicine. Those who are interested are advised to apply to the Commonwealth Fund, 41 East Fifty-Seventh Street, New York City, for application blanks and further information.

MEDICAL MOTION PICTURES AVAILABLE FOR LOAN—AMERICAN MEDICAL ASSOCIATION

Motion pictures on various scientific subjects are available on a loan basis. The material falls into two groups:

(1) Pictures for medical societies and other scientific organizations.

(2) Pictures for the public.

Requests for films should be instituted as far in advance as possible so that the

proper reservations can be made. The exact shipping addresses and dates should be given at the time of the request; also the type of apparatus in which the film is to be run. Responsibility for the projection and care of the film must be borne by the individual or organization which is borrowing it. The American Medical Association does not have projectors available for loan.

The only expense incurred is that of transportation both ways. However, careless handling resulting in serious damage may be charged to the borrower.

A brief description of each film may be obtained from the Chicago office. Notation is made as to the size of the film—sixteen millimeters or thirty-five millimeters—and silent or sound.

Address: Director, Scientific Exhibit, American Medical Association, 535 North Dearborn Street, Chicago, Illinois.

Dr. George Boone of Paris is the newly-elected president of the Tri-County Medical Society. The group is composed of doctors from Henry, Weakley, and Carroll Counties.

Dr. Arthur Dunlap of Paris is vice-president of the society, representing Henry County. Other officers are Dr. Roy Douglas of Huntingdon, Carroll County, vice-president; Dr. Robert Brandon of Martin, Weakley County, vice-president; Dr. Wray Alexander of McKenzie, secretary-treasurer.

The *Radiologic Review and Mississippi Valley Medical Journal* is now appearing under the name of the *Mississippi Valley Medical Journal* (incorporating the *Radiologic Review*).

The new publication is bimonthly and essentially clinical, especially appealing to the general practitioner. It will contain the papers read before the Mississippi Valley Medical Society.

With such a background we predict a bright future for the *Journal* and its very efficient editorial staff.

Dr. Harold Swanberg of Quincy, Illinois, continues as editor.

NEW FILMS ON PHYSICAL THERAPY

To stress the importance of physical therapy as an adjunct to the practice of medicine and surgery, the Council on Physical Therapy is utilizing motion pictures as an educational medium. These deal with the value of simple measures such as heat, light, massage and therapeutic exercise, including underwater movements. Apparently one reason why physical therapy has not been accorded more widespread acceptance on the part of the general practitioner is its close association, in his mind, with "machine therapy." This unfortunate connotation has disturbed physicians in some localities. While it is true that the machine is a useful adjunct to the practice of medicine in certain instances, at least ninety per cent of the good accomplished by physical therapy results from the use of simple measures. The new films prepared recently and now available for loan to those wishing them for educational purposes include:

Aids in Muscle Training: This film replaces an old one entitled Simple Measures Facilitating Graduated Active Motion. In addition to the subjects which were previously considered, such as sling suspension exercises for the upper and lower extremities, graded exercises on a powdered board are shown for the lower extremities. This film also demonstrates three kinds of "walkers" for reeducation exercises.

Occupational Therapy: This film replaces the old one of the same title. It shows occupations that may be prescribed by physicians to motivate and control the desired physical or mental activity of the patient and assist in his adjustment to long hospitalization. A section on cerebral palsy is included, picturing indirect muscle training through prescribed activity and stressing the importance of early treatment to prevent growth of faulty habit patterns.

Underwater Exercises: This is a new film presenting the therapeutic use of large and small exercise pools, Hubbard tanks and homemade tanks and showing types of exercises given in cases such as infantile paralysis, cerebral palsy, and postoperative congenital dislocation of the hip.

Massage: This film replaces one which

was formerly used to demonstrate the technique of massage, describing the various movements and why they are performed in a given way.

Contraction of Arteries and Arteriovenous Anastomoses: This film visualizes the contraction of arteries and arteriovenous anastomoses as seen through a glass chamber installed in a rabbit's ear.

The council has had several films for loan which have been shown in the past before state, county, and local medical societies. Because of their popularity they have become too worn for further projection. However, duplicates have now been made which are in excellent condition. The titles follow:

Effects of Heat and Cold on Circulation of Blood: This film shows the effect of heat and cold on circulation as seen through a glass chamber installed in a rabbit's ear.

Effects on Massage on Circulation of the Blood: Similar to the foregoing except that it shows the effects of massage.

In addition, two old films are still available on the following subjects:

Therapeutic Exercises for the Shoulder Joint Following Dislocation: This film demonstrates static, passive, active, and resistive exercises for the shoulder joint, including work with pulley and weight.

Treatment of Compression Fracture of the First Lumbar Vertebra.

The films may be procured by writing to the Director of Exhibits of the American Medical Association. An advance request will insure the film being reserved for the desired date.—*Journal of American Medical Association.*

WOMAN'S AUXILIARY

President.....Mrs. H. E. Christenberry
Knoxville

President-Elect.....Mrs. Matt. Murfree
Murfreesboro

Press and Publicity.....Mrs. Frank Fessey
Nashville

Dear Auxiliary Members:

Your president has just returned from a trip through Middle and West Tennessee in the interest of the auxiliary.

I met with a committee in Jackson and found them busily planning for an auxiliary. It is expected to be organized and functioning when the convention meets there in April.

The Shelby County Auxiliary is a thriving organization carrying on a good program and taking its place as an important part of the club life of the city of Memphis.

Rutherford County Auxiliary had an interesting meeting in Murfreesboro which it was my privilege to attend. They are a wide-awake group of women who are keenly alive to the interests of the profession.

I attended board meetings in both sections and a tentative program was drafted. The East Tennessee meeting is to be held next week and we shall finish the preliminaries.

Have had wonderful cooperation in the planning and think we shall have a fine meeting.

Am expecting everybody to get busy to complete a good report and really try to make this the best year of our auxiliary life.

Plan now to be in Jackson on Tuesday and Wednesday, April 11 and 12.

Sincerely,

MRS. H. E. CHRISTENBERRY, *President*.

RUTHERFORD COUNTY

Mrs. H. E. Christenberry, state president of the Woman's Auxiliary to the Tennessee State Medical Society, was the honor guest at the monthly meeting of the Woman's Auxiliary to Stones River Academy of Medicine, which was held on January 20 at the home of Mrs. Matt Murfree, with Mrs. George Crosthwaite as cohostess. Mrs. Christenberry spoke on the subject of socialized medicine, pointing out its disadvantages. She also outlined the objectives of the auxiliary. Mrs. Jesse Huggins also spoke at length on socialized medicine.

The auxiliary voted to endorse the Tennessee Tuberculosis Hospital Bill, to be presented to the general assembly at the present session. Mrs. M. B. McCrary, president, appointed Mrs. J. A. Scott to contact Rutherford County representatives and Mrs. J. F. Adams. Mrs. McCrary also appointed Mrs. Murfree for Rutherford and

Mrs. H. M. Smoot for Cannon as a committee to compile records on pioneer doctors, copies of which are to be presented to the state archives and the local auxiliaries. Mrs. W. V. Sanford, program chairman, presented Mrs. Murfree, who introduced Mrs. Huggins. After adjournment the hostess served afternoon tea.

SHELBY COUNTY

Dr. W. D. Stinson was the guest speaker at the regular monthly meeting of the Woman's Auxiliary to the Memphis and Shelby County Medical Society, Wednesday, January 18, it being a "Public Relations" program. A large gathering of representatives of women's organizations was present.

Mrs. H. E. Christenberry, state president of the Woman's Auxiliary to the Tennessee State Medical Society, was present as was also Mrs. Charles Garrison of Little Rock, Arkansas, past president of the Woman's Auxiliary to the Southern Medical Association and past vice-president of the Woman's Auxiliary to the American Medical Association. After the meeting, at which Mrs. E. C. Mitchell, president, presided, luncheon was served. Miss Marie Bender, daughter of Dr. and Mrs. Charles A. Bender, was selected as a lady in waiting in the Cotton Carnival. She will represent *Hygeia* in the floral parade and will be formally introduced in a novel way at the Valentine spring party on February 14.

KNOX COUNTY

The Woman's Auxiliary to the Knox County Medical Society had their annual Christmas party December 17, at which their husbands was guests. The party was at the spacious home of Dr. and Mrs. H. E. Christenberry, which was beautifully decorated for the occasion. Mrs. B. B. Cates, president, asked Mrs. W. F. Dorsey and Mrs. Kyle Copenhaver, chairmen of the Social and Courtesy Committees, to have charge of the dinner and entertainment. Around 100 guests enjoyed a delicious turkey dinner followed by a musical program arranged by Mrs. Herbert Acuff. After the musicians had given their selections the whole assemblage joined in singing Christ-

mas carols. The next hour a magician entertained the crowd with clever card tricks and feats of magic and dexterity.

Not content with having a party just for themselves the auxiliary made Christmas a joyful occasion for all those who were in the wards at the Knoxville General Hospital and even for the preliminary nurses. Under the capable leadership of Mrs. W. W. Potter not only was each of the seven wards and the colored wards beautifully decorated, but also each bedside table. Every child was given candy and two toys each and forty-five stockings were filled with fruits, nuts, and candy for the preliminary nurses. Christmas morning a lighted candle favor and Christmas card decorated 150 trays.

ELIZABETH MOORE (Mrs. John D.),
Secretary.

MEDICAL SOCIETIES

Anderson County:

The officers of the Anderson County Medical Society for 1939 were elected at the regular monthly meeting of the society held in Clinton on January 9 (postponed from January 2). The following officers were elected:

Dr. Horton G. Dubard, Norris, president;
Dr. Trent O. Huff, Clinton, vice-president;
Dr. J. S. Hall, Clinton, secretary-treasurer;
Dr. O. E. Ballou, Clinton, delegate; Dr. Horton G. DuBard, Norris, alternate.

(Signed) J. S. HALL, M.D., *Secretary.*

Davidson County:

January 26—"The Management of Patients with Diabetes Mellitus Who Require Surgery," by Dr. James E. Paullin, Atlanta.

"Newer Knowledge of Nutrition and Vitamins," by Dr. J. S. McLester, Birmingham.

January 31—"Stones in the Upper Urinary Tract," by Dr. W. B. Wright. Discussed by Dr. Perry Bromberg.

"Problems and Progress of the City Health Department," by Dr. John Overton.

February 7—"Consideration of the Com-

plications of Gall Bladder Surgery," by Dr. Gordon Heyd.

February 14—"Consideration of Uterine Prolapse and Related Conditions," by Dr. James C. Masson, Rochester, Minnesota.

Papers scheduled to be read are as follows:

February 21—"Chronic Arthritis," by Dr. Albert Weinstein. To be discussed by Dr. J. B. Youmans.

"Neuritis," by Dr. W. de Gutierrez-Mahoney. To be discussed by Dr. J. P. Gilbert.

February 28—"Neurological Surgery," by Dr. T. D. McKinney. To be discussed by Dr. Cobb Pilcher.

March 7—"Appendicitis in the Infant," by Dr. Lynch Bennett. To be discussed by Drs. John Lee and J. C. Overall.

March 14—"Intussusception in the Adult," by Dr. Cleo Miller.

"Intussusception in the Infant," by Dr. P. C. Elliott. To be discussed by Dr. Thos. G. Pollard.

Dyer, Lake, and Crockett Counties:

The Dyer, Lake, and Crockett Counties Medical Society met in regular monthly session February 1, 1939. Scientific program:

"Common Rectal Diseases," by Dr. John Frazier, Newbern.

"Physiologic Concepts in Estrogenic Therapy," by Dr. J. Paul Baird, Dyersburg.

"How Europeans Pay Sickness Bill," by Dr. J. G. Price, Dyersburg.

C. L. DENTON, *Secretary.*

Fayette-Hardeman:

The regular meeting of the Fayette-Hardeman County Medical Society was January 27, 1939. The following papers were read: "Acute and Chronic Diseases of the Larynx," by Dr. W. Likely Simpson, Memphis; "Lesions of the Colon," by Dr. R. L. Saunders, Memphis.

The following officers were elected: president, Dr. B. F. McAnulty, Bolivar; vice-president, Dr. D. L. Brint, Bolivar; secretary, Dr. Wiley D. Lewis, Bolivar.

Hardin, Lawrence, Lewis, Perry, and Wayne Counties:

The Five-County Medical Society met at Lawrenceburg on January 31. The following papers were read:

"Recent Advances in the Treatment of Trachoma," by Dr. J. W. Danley, Lawrenceburg.

"A Discussion of State Medicine," by Dr. W. M. Hardy, Nashville.

"Presidential Address—Observations on the Treatment of Fractures," by Dr. John H. Tilley, Lawrenceburg.

The next meeting will be held at Hohenwald on February 28.

Knox County:

January 10—"Presidential Address," by Dr. Robert Patterson.

January 24—"Vomiting in Early Infancy," by Dr. Joe T. Smith. Discussed by Drs. Gilbert Eblen and Jack Chesney.

January 31—"Pneumonia," by Dr. Dan Thomas.

Shelby County:

The Memphis and Shelby County Medical Society met January 17. Dr. H. H. Shoulters, Nashville, discussed "Some Phases of Medical Economics."

"Case Reports: Embryonic Carcinoma," by Dr. M. W. Searight.

"Differential Diagnosis of Erythema Multiforme," by Dr. E. R. Hall.

February 7—"Case Reports: An Unusual Instance of Fever Therapy," by Dr. I. G. Duncan.

"Intestinal Obstruction Due to Large Gallstones," by Dr. G. Paullus.

Papers: "The Treatment of Appendiceal Peritonitis," by Dr. L. L. Carter. Discussed by Dr. J. L. McGehee and Dr. R. L. Sanders.

"Management of Ureteral Stone," by Dr. S. L. Raines. Discussed by Dr. H. K. Turley and Dr. T. D. Moore.

Sullivan-Johnson Counties:

There was an attendance of thirty-six at the Sullivan-Johnson County Medical So-

ciety meeting held February 1 at the Hotel General Shelby in Bristol.

Dr. W. H. Tanksley and Miss Winifred Lynch of the Public Health Department showed a number of charts illustrating various phases of the problem of syphilis control. These charts were taken from recent case records in Sullivan County.

Dr. John M. Boylin of Bristol gave a very excellent talk on "Hypothyroidism." This was discussed by Drs. N. H. Copenhaver, W. H. Reed, H. W. Bachman, and J. P. McNeil.

Dr. J. W. Erwin, the new director of public health in Sullivan County, was introduced by Dr. T. R. Bowers, president. Dr. Erwin is taking the place of Dr. F. L. Moore, who resigned to accept the position of professor of public health at the Long Island College of Medicine, New York.

(Signed) DR. C. F. N. SCHRAM,
Secretary.

OTHER MEDICAL SOCIETIES

The St. Joseph Clinical Society will hold its eighth annual spring clinic on March 28 and 29 at the Hotel Robideaux, St. Joseph, Missouri. There will be no registration fee. The purpose of the meeting is to offer a concentrated postgraduate course in recent advances in clinical medicine and surgery as interpreted by eminent clinicians who will be guest speakers.

The St. Joseph Clinical Society extends a cordial invitation to all members of the medical profession who may wish to be guests at this clinical gathering.

Putnam, White, Cumberland, Overton, and Jackson Counties:

The Five-County Medical Society met at Livingston, January 19, with the following members present: Drs. W. M. Brown, W. M. Breeding, W. F. Bell, J. D. Capps, C. A. Collins, T. M. Crain, E. B. Clark, Edward Draper, Price H. Duff, J. Ewert, L. M. Freeman, R. C. Gaw, V. L. Lewis, H. B. Nevins, F. O. Pearson, C. E. Reeves, Thurman Shipley, J. F. Terry, H. H. Taylor, V. L. Upchurch, and R. L. Witherington.

Dr. Thurman Shipley of Cookeville presented a paper on "Some Things Every Doctor Should Know About Allergy."

Dr. H. B. Nevins of Livingston read a paper on "Water Balance, Importance Of."

The following officers were elected for 1939:

Dr. E. B. Clark, Sparta, president; Dr. T. M. Crain, Monterey, first vice-president; Dr. R. C. Gaw, Gainesboro, second vice-president; Dr. J. F. Terry, Cookeville, secretary and treasurer.

The next meeting will be at Gainesboro, March 16, 1939.

(Signed) J. FRED TERRY, M.D.,
Secretary.

The Southeastern Surgical Congress announces the tenth anniversary postgraduate surgical assembly to be held in Atlanta, March 6, 7, 8, 1939, at the Biltmore Hotel.

The following is a partial list of speakers on the program:

Abell, Irvin, Louisville, Kentucky: "C. Jeff Miller Memorial Lecture."

Alvarez, Walter, Rochester, Minnesota: "Hints in the Treatment of Gastrointestinal Disease."

Babcock, W. Wayne, Philadelphia, Pennsylvania: "Interior Exteriorization in Abdominal Surgery."

Bunch, George H., Columbia, South Carolina: "Acute Epidural Abscess with Compression of Cord."

Campbell, Meredith F., New York City: "Urologic Surgery in Children."

Cason, T. Z., Jacksonville, Florida: "Medical Pathology Stimulating Acute Surgical Conditions—Differential Diagnosis."

Cooke, W. R., Galveston, Texas: "The Surgical Treatment of Suppurative Salpingitis."

Crile, George W., Cleveland, Ohio: "The Surgical Treatment of Essential Hypertension."

Dickson, Frank, Kansas City, Missouri: "Surgical Reconstruction of the Arthritic Patient."

Fishbein, Morris, Chicago, Illinois: "Fads and Quackery in Healing."

Flothow, Paul G., Seattle, Washington:

"Advances and Retreats in Neurological Surgery."

Folsom, Alfred I., Dallas, Texas.

Gage, Mims, New Orleans, Louisiana: "Acute Cholecystitis: Etiology, Clinical Manifestations and Immediate and Late Treatment, with Special Emphasis on Conservative Treatment."

Haggard, W. D., Nashville, Tennessee: "Gall Bladder Syndromes." Clinic.

Hart, Deryl, Durham, North Carolina: "Parathyroid Tumors."

Hendon, A. G., Louisville, Kentucky: "The Influence of Negative Pressure in the Bladder on Kidney Function."

Hertzler, Arthur, Halstead, Kansas: "The Goiter Heart." Clinic.

Johnson, W. O., Louisville, Kentucky: "Emotional Disturbances Associated with Pelvic Symptoms."

Kessler, Henry H., Newark, New Jersey: "Rehabilitation of the Physically Handicapped."

Lockwood, A. L., Toronto, Canada: "Surgical Lifeguards."

Lyerly, J. G., Jacksonville, Florida: "Transection of the Prefrontal Lobe Association Fibers in Certain Mental Disorders."

Maguire, Daniel, Charleston, South Carolina: "Hand Infections and Their Treatment."

Mahorner, Howard, New Orleans, Louisiana: "Optimum Interval of Delay for Operation Following Appendiceal Complications."

McGehee, J. L., Memphis, Tennessee: "Immediate versus Delayed Treatment of Acute Appendicitis—A Statistical Study."

McKay, R. W., Charlotte, North Carolina: "Vesicovaginal Fistula."

Mixter, William J., Boston, Massachusetts: "Epilepsy in Neurosurgery."

Noland, Lloyd, Fairfield, Alabama: "The Management of Acute Thyroid Disease."

Penberthy, Grover C., Detroit, Michigan: "The Control of Paralytic Ileus by Intestinal Intubation."

Rankin, Fred, Lexington, Kentucky: "Bleeding Peptic Ulcer—Indications for Surgery."

Reid, Mont R., Cincinnati, Ohio: "The

Mortality of Appendicitis—A National Disgrace."

Rippy, Edward L., Nashville, Tennessee: "Carcinoma of the Stomach."

Roesler, Hugo, Philadelphia, Pennsylvania: "Some Cardiovascular Problems of Interest to the Surgeons."

Ruddock, J. C., Los Angeles, California. Singleton, A. O., Galveston, Texas: "Splenectomy."

Stewart, W. H., New York City: "Cine-fluoroscopic Studies in Diseases of the Chest."

Trout, Hugh H., Roanoke, Virginia: "Radical Operation for Carcinoma of the Breast—Motion Picture in Colors."

Ward, George Gray, New York City: "Uterine Displacements."

For information write Dr. B. T. Beasley, secretary-treasurer, 701 Hurt Building, Atlanta, Georgia.

ABSTRACTS OF CURRENT LITERATURE

ANESTHESIA

By HUGH BARR, M.D.
Medical Arts Building, Nashville

Clinical and Electrocardiographic Findings Following the Use of Various Local Anesthetic Solutions. Miller and Dick. *Anesthesia and Analgesia*, July-August, 1938.

A study was made on subjects using procaine with a vasoconstrictor such as epinephrin and cobefrin hydrochloride to prolong anesthesia and to prevent toxic symptoms from too rapid absorption. Toxic symptoms resulting from vasoconstrictors should be differentiated from those of procain.

With routine injections of procain two per cent with epinephrin and cobefrin one to 10,000 to one to 100,000 solutions, the following results were noted. There was a consistent change in the heart rate, blood pressure, and T-wave changes in the electrocardiogram, which varied directly as the concentration of the epinephrin was increased. The more concentrated the solution of epinephrin the higher the blood pressure, the more rapid the heartbeat, the more frequent the T-wave changes, and the more frequent were the extrasystoles encountered.

In contrast, the electrocardiographic changes resulting from the addition of cobefrin to procain were of a minor degree, and no extrasystoles were noted.

DERMATOLOGY

By E. E. BROWN, M.D.
Doctors Building, Nashville

Treatment of Dermatophytosis with Vaccines. Jessie A. Tolmach, M.D., and Eugene F. Traub, M.D. *New York Archives of Dermatology and Syphilology*, December, 1938.

In a previous publication in *Archives of Dermatology and Syphilology*, 32: 413, September, 1935, the authors reported on a carefully observed and controlled series of 135 cases of dermatophytosis, in many of which there were secondary manifestations. They demonstrated that the desensitization of the skin which was accomplished in a considerable number of cases with intradermal injections of trichophytin was only temporary. Those patients who were desensitized and who returned because of recurrence showed the same hypersensitivity as before. The period of desensitization varied from two weeks to several months and had little effect on the course of the disease.

In their present article they have studied the results of vaccine therapy in sixty-five cases of dermatophytosis (in which the diagnosis was proved clinically, microscopically, and culturally).

Their results have been so regularly unfavorable that they felt impelled to publish them in order to discourage the waste of patient's time and money and physicians' efforts and to point out that much more experimental work is necessary before such products have any practical use.

CONCLUSION

Three different vaccines were used. Over sixty per cent of the patients were entirely uninfluenced by treatment and about nine per cent were apparently cured. Their reports of cure and improvements were subjected to question.

OBSTETRICS AND GYNECOLOGY

By HAMILTON V. GAYDEN, M.D.
Suite 234 Doctors Building, Nashville

Hematometra. P. Bernstein and R. Walter. *American Journal of Obstetrics and Gynecology*, 37: 126, January, 1939.

Hematometra is due either to congenital or acquired atresia. Blood retention incidental to menstruation or other bleeding produces distention of the vagina (hematocolpus), uterus (hematometra), and fallopian tubes (hematosalpinx). Hematovarium and hemato-peritoneum also occur. The author gives a brief report of nineteen cases occurring in Mt. Sinai Hospital during the years 1917 and 1937 which represents 0.1 per cent of all gynecological admissions.

Nineteen cases of hematocolpus and hematometra are discussed. Eleven were due to congenital

(Continued on page 74)

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anomalies and nine were secondary to acquired gynatresia. Imperforate hymen is the most frequent congenital anomaly producing hematometra. The etiologic factors causing acquired atresias are childbirth injuries and post-partum infection. Cervical cauterization, X-ray therapy, atrophic changes, and cervical tumors also cause stenosis leading to hematometra. In children the diagnostic triad is an imperforate bulging hymen, a pelvic tumor, and delayed menses. In adults, diagnosis is not as simple, since the gynatresia is usually acquired and partial. Large hematometra are therefore rare. Treatment is always surgical. Conservatism is advocated.

OPHTHALMOLOGY

By ROBERT J. WARNER, M.D.
Doctors Building, Nashville

Vitamin C Balance in Patients with Senile Cataract. J. Seefried. *Archives of Ophthalmology*, January, 1939.

The relation between vitamin C intake and excretion in patients with senile cataract was determined by means of the tolerance test of Jezler, Kapp, and Niederberger. The patient receives daily, in addition to his ordinary diet, 300 milligrams of vitamin C by mouth. This abnormally high intake raises the vitamin excretion in the urine. The number of days which must elapse until the patient's system becomes so saturated with vitamins that fifty per cent of the daily intake is excreted again in one day has been found to be a significant index of the patient's vitamin C metabolism. Comparing forty-four patients with senile cataracts with twenty-five controls of approximately the same age, the author found that, on the average, it takes the patient with senile cataract three days longer than the control to reach the point where fifty per cent of the vitamin intake is excreted again. This suggests the presence of a general disturbance of the vitamin C metabolism in cataractous patients.

PEDIATRICS

By JOHN M. LEE, M.D.
Doctors Building, Nashville

The Problem of the Thymus in Children. A. Graeme Mitchell, M.D., and Josef Warkany, M.D. *The Journal of the American Medical Association*, 112: 283-285, January 28, 1939.

Necropsies have shown that the thymus may compress the trachea, blood vessels, and nerves, and tracheal compression has been demonstrated during life.

An enlarged thymus may cause stridor, dyspnea, cyanosis, and dysphagia. Other conditions may also cause these symptoms. The stridor from hyperplasia of the thymus is continuous, only mod-

erately diminished during rest and sleep, and is noted with both inspiration and expiration. Stridor may be caused by congenital abnormalities of larynx or pharynx, new growths, adenoids, deep-seated goiter, and other conditions.

While the thymus may cause cyanosis, that symptom in the newborn is more often caused by brain abnormality or injury, congenital heart disease, atelectasis, and other conditions. Any obstruction of the upper respiratory tract may produce inspiratory retractions. Likewise, dysphagia is more often caused by other conditions than an enlarged thymus.

Most clinicians are unable to percuss accurately the area of thymic dullness or palpate the gland in the suprasternal notch. Roentgenograms made and interpreted by experts are valuable aids to diagnosis.

Irradiation is the treatment for enlarged thymus, if treatment is indicated. All enlarged thymus glands do not require treatment. No harm should result from one to three radiologic treatments properly given.

Paltauf's original description of the child with the status thymicolymphaticus cited among other findings enlargement of the thymus. The author feels that this is one detail of a syndrome and not the cause of the condition, hence treatment of the thymus would not improve the patient's condition.

Regarding the role of the thymus gland as an endocrine organ it is stated, "Present knowledge of the functions of the thymus has not led to any clinical implications which are helpful in the treatment of endocrine syndromes presumably associated with thymic abnormality. Any such abnormality would be only part of a pluriglandular syndrome."

ROENTGENOLOGY

By FRANKLIN B. BOGART, M.D.
Medical Arts Building, Chattanooga

Radiation Therapy of Chronic Mastitis. Taylor, H. C., Jr., and Brown, R. L. *Am. J. R. and R. T.*, Vol. 40, No. 4, page 517, October, 1938.

Clinically, cases are divided into:

(1) Those in which pain is the predominating symptom. In the most marked cases of this type, the breasts hypertrophy and a diffuse nodularity develops, especially in the outer quadrants. Constant soreness is present, which is increased before each menstrual period. There is a sense of weight and pain, which may be severe enough to cause loss of sleep.

(2) The second type is characterized by some type of secretion from the nipple, serous, milky, or sometimes thick and pasty. Some of these cases have moderate pain. In these cases the clinical signs are most marked in the central portion of the breast, where dilated ducts can often be palpated beneath the areola.

Radiation may be used according to two distinct-ly different theories.

(A) Direct irradiation must produce definite tissue changes if it is to relieve symptoms. It may accomplish this by destroying epithelium, by reducing vascularity by its effect upon the vessel walls, by reducing a fibrosis, or possibly by acting upon sensory nerve endings. Any of these effects will require large doses because the structures to be influenced are relatively resistant to radiation.

The dosage has varied considerably, but the best results have been obtained with doses of approximately 1,200 r generated at 200 kilovolts, delivered in three treatments, with five-tenths millimeter copper filtration. Of the twenty-two cases treated none were completely relieved of pain by direct irradiation, but about two-thirds did get marked amelioration of symptoms.

(B) The second method of radiation therapy of chronic mastitis is an indirect one, by which atrophy of the breast is produced through artificial suppression of the ovarian function. The amount of irradiation required is small, because of the extreme radiosensitivity of the granulosa cells of the ovarian follicles.

Of the eighteen cases who received irradiation to the pelvis, the average age was forty-one years—the youngest thirty-three years, and the oldest fifty-one years. The dose varied considerably with the age of the patient, and whether or not a temporary, a permanent menopause was desired. The estrogenic hormone content of the urine was carefully checked, and the breast symptoms greatly improved or disappeared when it was greatly reduced. Improvement resulted in seventeen of the eighteen cases.

Twenty-two cases of chronic mastitis treated by direct irradiation of the breast are reported with improvement noted in about two-thirds. Eighteen cases of treatment of chronic mastitis by irradiation of the ovaries are reported with improvement in seventeen. The indications and contraindications for these methods are discussed.

SURGERY—GENERAL AND ABDOMINAL

By BATTLE MALONE, II, M.D.
1400 Monroe Avenue, Memphis

The Diagnosis and Treatment of Chronic Endocervicitis.
Roy W. Mohler, M.D. Surgical Clinics of North America, December, 1938.

This condition is in reality a chronic cervicitis since there are changes in the entire cervix rather than just in the endocervix. The anatomy and physiology of the cervix are briefly reviewed, describing the changes in this organ during the phases of the life of a female. The changes found in chronic endocervicitis usually arise from either

an acute gonorrheal infection or a misplacement of the endocervical tissues. In chronic gonorrheal endocervicitis the organism is difficult to isolate, though the infection may persist indefinitely. Misplacement of endocervical tissue may be due to a congenital eversion, trauma of labor, or some operative manipulation on the cervix, resulting in erosion, eversion, ectropion, or ulcer. Changes in this misplaced tissue occur as a result of the acid vaginal secretion and the infection of the bacteria in the vagina.

The diagnosis is made from a history of a change in the vaginal secretion or a leukorrhea and changes in the feel and appearance of the cervix. Nodules may be felt which are retention cysts caused by inflammatory changes at the ostia of the cervical glands producing a blocking. These nabothian cysts appear as enlarged areas with some blanching of the overlying mucous membrane. Good illumination is necessary. The cervical canal may appear cyanotic and edematous and areas of obstruction may be present. Bleeding may occur in an area of eversion, but the tissue is not friable, and the induration does not extend deeply in a simple endocervicitis. If the tissue looks suspicious, take a biopsy. The presence of pus cells in the cervical secretion indicates chronic endocervicitis since these are not present normally.

Treatment depends upon the cause and extent of involvement. If it is gonorrheal in origin, drainage by dilatation of the external os and the application of heat by vaginal douches, Elliott hydrotherm, or diathermy will usually effect a cure. If these measures fail, the infected endocervical tissues should be destroyed. If misplacement of tissue is the cause, this is best treated in its incipency by cauterization with electric cautery or coagulation. This can be done in the office. A few linear strokes one-eighth inch deep and one-half inch apart are made through the everted area. If coagulation apparatus is available, this is applied to all everted areas in a regular and even outline. An increase in discharge is noted for a week or two which subsides with healing. A warm vaginal soda douche is used during this time.

If the endocervicitis is of long standing and extensive cystic changes have occurred, more formidable measures must be used. Much of the body of the cervix with the endocervical tissue must be removed. The methods generally used are cauterization, coagulation, endocervical resection (conization). Sturmdorf amputation, trachelorrhaphy, and trachelectomy. Most of these methods require hospitalization and anesthesia. The author briefly describes the Hyams conization technic. Complications to be avoided are infection, bleeding, stenosis of the cervix, and incomplete cures.

UROLOGY

By TOM R. BARRY, M.D., F.A.C.S.

By G. A. WILLIAMSON, JR., M.D.

Medical Building, Knoxville

Treatment of Urinary Infections in Children with Sulfanilamide. Pearl Summerfeldt and D. R. Mitchell. *Journal of Urology*, January, 1939.

Children tolerate sulfanilamide even better than adults do, although they metabolize the drug very much the same. Infants under two years of age have been given as much as fifty grains per day without untoward effects.

The maximum concentration in the blood of a ten-grain dose is reached in one to two hours, causing a two to three milligram per cent concentration. The drug is excreted rapidly, resulting in a concentration that falls below one milligram per cent within approximately four hours. In several cases, urine concentration of over 200 milligrams per 100 cubic centimeters was obtained.

Complications and toxic reactions are much less common in children than in adults. In a group of forty cases only one failed to tolerate the drug. Fluids are not restricted in children because of the ease with which dehydration and acidosis develop. To compensate for the relatively high fluid intake, the amount of the drug given to the child is large compared to the adult dose.

In children, one usually deals with acute pye-

litis, or chronic pyelitis secondary to some congenital urinary abnormality.

The forty cases reported were all female, and all had a complete genitourinary study. There were twenty-nine cases of acute pyelitis, eleven had chronic pyuria without fever associated with slight dilatation of the renal pelvis. The age varied from infancy to thirteen years. In thirty-four cases *B. coli* was found in the urine, *B. coli* and staphylococci in three, staphylococci in two, and there was one case of nonhemolytic streptococci.

From thirty to fifty grains of sulfanilamide and the same amount of sodium bicarbonate were given daily in the group from six to thirteen years of age, thirty grains of sulfanilamide and an equal amount of sodium bicarbonate in the group from two to six years of age, and in the cases under two years, twelve to twenty-five grains of sulfanilamide and an equal amount of sodium bicarbonate were given daily.

The treatment was kept up for two days after the urine became sterile. In all cases with the exception of two this took place in from one to ten days. Fifty per cent were sterile in four days. Five cases had a recurrence in a few days, one developed a severe cyanosis, and failed to tolerate the drug. One cleared up after a more prolonged course of treatment, and the others failed to respond to the second course. Two cases failed to respond after five days, and the treatment was discontinued.

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No. 3

VITAMIN B*

R. J. BUCKMAN, M.D., La Follette

I. INTRODUCTION

WE ARE PRONE to minimize the value of vitamins on the grounds that they are only recently spoken of as being so essential to the growth and development of the individual. A few years ago they were practically unknown. But times have changed, child care has changed, and diets have changed. Contrast the diet of the infant for whom you are now prescribing with the diet you had when you were a child. It seems we just grew up in spite of the vitamins. We have to look no farther than in some of the mining camps to see an infant thriving under conditions which, we are sure, would be rapidly fatal to a child of the better situated people. Laymen are better instructed now and, as the general knowledge of medicine increases, it is the physician's privilege and duty to utilize this knowledge.

II. NATURE OF VITAMINS IN GENERAL

Animals, including man, are accustomed to live on fresh, native foods, plants, and the flesh of other animals. When man is made to live on purified, highly refined foods, nutritional failure results and characteristic disease ensues. Certain essentials are lacking in this purified diet, namely vitamins.

Vitamins are defined as a class of substances existing in minute quantities in natural foods, and necessary to normal nu-

trition, the absence of which produces deficiency diseases. The only reason vitamins are grouped together and called a group name is accidental because they were discovered in rapid succession. They are not a natural group, neither in chemical nature nor in nutritional function. Each vitamin is specific and belongs to radically different types of organic compounds. Whatever therapeutic properties individual vitamins possess, a vitamin is primarily a nutritional factor. Vitamins should be considered as nutrients rather than drugs.

III. OCCURRENCE OF VITAMIN B AND ITS PHYSICAL PROPERTIES

Vitamin B is complex and consists of B-1, whose outstanding characteristics are its antineuritic value and its value for the promotion and maintenance of the appetite; B-2, or G, characteristic for its antipellagric and antianemic value.

B-1 is a thiazol-pyrimidine compound, thiamin chloride, the formula and synthesis of which was discovered by Williams and Cline. It is soluble in water, glycerine, and alcohol; insoluble in oils, ether, and acetone. It is unstable at high temperatures; stable in acid and unstable in alkaline media. It is absorbed by fuller's earth, silicates, and charcoal. The main source is yeast, wheat germ, and rice polishings. It is also found in root and leafy vegetables, eggs, fruit, brain, and fish roe.

B-complex includes the antipellagric factor, B-2 or G, and the recently developed

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nicotinic acid. It is soluble in water and diluted alcohol and insoluble in oils. It is moderately stable to oxidation and in acid and alkaline media. It is stable to heat and sensitive to light. Main source is yeast, milk, and liver. It is also found in eggs, haddock, salmon, spinach, carrots, potato, peas, and tomatoes.

IV. PHYSIOLOGY

A. *Excretion* of B is commensurate with the intake, for there is no storage of this vitamin in the body. Normally there are excreted twenty I.U. per day. In deficiency states, from three to eight, I.U. are excreted. Normal needs of the body are around 400 I.U. per day.

B. That the *Growth* of the body is directly influenced by the B-complex has been clearly demonstrated by experiments conducted on normal babies. Those receiving the vitamin were uniformly larger at the end of a three-month period in all measurements and weight than those without the vitamin. The growing child needs vitamin B in relatively greater amounts since its metabolism is greater. Vitamin B is a stimulant to metabolism and to certain endocrine glands. It is the essential growth factor in the young. It is required in large amounts in infancy, at puberty, in pregnancy and during lactation.

C. *Gastro-Intestinal Tract*.—Vitamin B stimulates the appetite and aids digestion and assimilation. It assists in maintaining certain metabolic processes, for example, that of carbohydrates. The muscle tonus of the intestine is increased. Since vitamin B has some effect on the well-being of lymphoid tissue, it thus aids proper assimilation of food.

D. *Carbohydrate Metabolism* is dependent on B-1 for the completion of the oxidation process. B-1 is thought to act here as a catalyst. A person who is on a starvation diet does not develop beriberi; hence, a plausible theory is that B-1 is essential to carbohydrate metabolism, and in the absence of B-1 starch digestion leads to the production of poisons—lactic and pyro-racemic acids—which are known definitely to cause polyneuritis. Since the vitamin B-1 need is in direct proportion to the car-

bohydrate intake, deficiency diseases are likely to occur in those whose ingestion of carbohydrates is high in proportion to their vitamin needs. By bringing about a more complete oxidation of carbohydrates, vitamin B-1 lowers the blood sugar, increases the carbohydrate tolerance, and causes previously present glycosuria to disappear.

E. *Nervous System*.—Vitamin B-1 has a profound effect on the peripheral portions of the sensory nerves, and sometimes in the motor portions. B-2 affects the peripheral nerves and also the central nervous system.

V. PATHOLOGY CAUSED BY DEFICIENCY

A. *Growth*.—Infants fail to grow when inadequate amounts of B are supplied. In the adult, loss of weight occurs, loss of vigor. There is lack of luster in the hair and a generalized asthenia or sense of weakness.

B. *Gastrointestinal Tract*.—There is a general lack of tonus in the intestinal tract, particularly in the upper portion. Vitamin B causes an atrophy and congestion of the intestinal wall with loss of neuromuscular control. This is accompanied by disturbance of secretion and impairment of assimilative powers with a breakdown of normal defenses against bacterial invasion. In B-1 the distinguishing result of deficiency is the generalized loss of tone and degenerative changes with anorexia, constipation, and distension. In B-2 deficiency the distinguishing result in disturbance of normal gastric secretion (achylia) with slick, red tongue, tenderness of the mouth, esophagus, and stomach, with characteristic inflammation and diarrhea. The end result of deficiencies of the B-complex is emaciation and, if sufficiently severe, convulsions.

C. *Skin*.—B-2 deficiency causes characteristic bilateral symmetric lesions of the skin of the forearm and leg and in the anterior upper surface of the chest. These lesions resemble sunburn, and after all inflammation has subsided there is a slight residual brownish pigmentation. There is loss of hair, acrodynia (a painful burning sensation of the palms of hands and soles of feet), and general atony of the skin.

D. *Circulatory System*.—There are degenerative changes in the myocardium clinically evidenced by a bradycardia. There is a lack of water in the blood (dehydration).

E. *Nervous System*.—There is a noninflammatory destruction of the myelin sheath of the peripheral nerves: the sciatics, femorals, tibials, peroneals, medians, ulnars, vagi, and phrenics. The nerves of the lower extremity suffer most. Later the axis-cylinder begins to degenerate. Clinically, this degeneration is evidenced by a polyneuritis. There is a mild degeneration of the anterior horn cells of the spinal cord, causing muscular incoordination of the lower extremities. The injury to the nerves causes muscular atrophy, fatigue, and loss of vigor. In the late stage of B-2 deficiency there is a degeneration of the central nervous system.

A fundamental distinction exists between the nervous and alimentary manifestations of B deficiency. The former are a functional disturbance with relatively little demonstrable pathology; the latter are a widespread destruction of tissue. Clinically the alimentary disturbances are more important.

VI. THERAPEUTICS

A. *Beriberi*.—This disease must necessarily head the list since the efficacy of B-1 therapy has been so conclusively demonstrated that today there is no doubt of its specificity. Beriberi (from a Singhalese word meaning "I cannot" and reduplicated for emphasis) was the scourge of the Japanese navy for centuries and was characterized by progressive weakness and pain and subsequent paralysis of the lower extremities. In 1885 Eijkman discovered the disease was due to an unknown substance in rice polishings, which he called nutritional polyneuritis. Barley was substituted for polished rice, which was heretofore the chief ration, and the condition known as beriberi disappeared. Beriberi is not a practical consideration in this country except occasionally in prison camps and endemically in isolated areas in Louisiana.

B. *Infantile Beriberi* is a definite clinical entity. Vitamin B passes to the mother's

milk only when present in adequate amounts in her diet. This condition does occur frequently in mild cases, and, less often in the graver cases.

Symptoms are: gastrointestinal upsets; restlessness; pallor and waxy color of the skin (low hemoglobin); a whining, feeble cry; oliguria; colic pain resulting in rigidity and cyanosis; meningeal symptoms; muscle tenderness; reduction of patellar reflexes; general weakness of limbs; and, if neglected, death (from cardiac failure).

Treatment is to supply the mother with four times the normal requirements or about 1,500 I.U. daily. One milligram of crystalline vitamin B-1 contains 300 I.U. The vitamin mixed with the carbohydrate of the mother's milk will in this way be more effective than if supplied in pure form to the child.

C. *Gastrointestinal Conditions*.—In this group the prime considerations are abnormalities in growth, and constipation. When we consider the physiology of vitamin B (q.v.) in the alimentary tract, it is easily understood that its administration will aid in the restoration of tone and in improvement in assimilation. B corrects the anorexia and constipation, and by means of proper oxidation of carbohydrates effects an increase in growth.

D. *Polyneuritis*.—In this connection are considered the cases of polyneuritis and neuritis that are of obscure origin and, hence, blamed on various foci of infection. The neuritis is assumed to be due to the accumulation of the poisonous metabolic product, pyroracemic acid, in the tissues. This is a severe nerve poison affecting particularly the peripheral sensory nerves, and also the nervous mechanism of the various secretory glands of the body as well as the ductless glands. Administration of vitamin B-1 has given excellent results in cases of intractable sciatica, and other stubborn neuritis cases, also herpes zoster. In one series of sixty particularly refractory cases there was reported a cure in forty per cent and very much improvement in thirty-five per cent.

E. *Alcoholic Polyneuritis*.—Since the vitamin B needs of the body are in direct

proportion to the caloric intake, alcohol, which has an extremely high caloric value, increases the vitamin B need. The majority of alcoholics with polyneuritis come from the poorer classes who are hardly expected to consume a normal vitamin need, much less one increased by the chronic intake of alcohol. Daily consumption of alcohol causes atrophic gastritis and fatty hepatitis. Combination of these lesions with deficient nourishment causes avitaminosis. Vitamin B therapy plays a definite role in the general treatment of the polyneuritis of alcoholics. Experiments have been conducted in which B was fed and alcohol continued, and there was definite improvement. I have treated recently a case of acute alcoholism superimposed on a chronic alcoholism by the administration of 2,000 I.U. of B-1 with prompt and dramatic relief of symptoms.

F. *Diabetes*.—It is my prediction after a thorough review of all available recent literature that the treatment of diabetes in the future will include some form of vitamin B-1 therapy. Tests performed on fifty diabetics after a period of starvation prove that glucose administered with vitamin B-1 has about the same effect as that given with insulin. In diabetics B-1 lowers the blood sugar, increases the carbohydrate tolerance, and does not affect the renal threshold. Some off-color preparations in the past have given the diabetic a false sense of security in that they raise the renal threshold for sugar and thus allow a relatively high glycemia, with, consequently, no detectable glycosuria. But B-1 has a true insulin-like effect. It is characteristic that diabetics have a generally reduced resistance, a tendency toward polyneuritis, and show a great liability to nerve injury and a poor power to repair in case of injury. In diabetes B-1 serves two functions: increase

of carbohydrate tolerance and economy of insulin.

G. *Pregnancy*.—Vitamin B needs of the pregnant are increased fourfold. This, in the opinion of many, is the cause of the vomiting of pregnancy. I personally have had uniformly good results with administration of B-1 extract, using 2,000 units (or 6.66 milligrams of crystalline B-1) on alternate days. One case in particular, who in previous pregnancies was tormented with vomiting during the entire period of gestation, has so far been symptom free at the sixth month. She was given 2,000 I.U. daily for six days then placed on a maintenance dosage of B-1 extract tablets (Upjohn's cerylexin).

H. *Pellagra*.—B-2, or G, has long been recognized as a factor in pellagra. Recently a fraction of B-2, called nicotine acid, has been developed which is very effective in curing the early manifestations of pellagra, causing a disappearance of dermatitis in twenty-four to thirty-six hours. The administration of dried brewers' yeast has become so definite a standard in the routine treatment of pellagra that its elaboration is not necessary here.

VII. CONCLUSION

Vitamin B is a nutritional factor and not a drug. If the disease caused by its deficiency has progressed so far that the pathologic processes caused thereby are irreversible, naturally no good can come from its use. All authors are agreed that the parenteral administration of the vitamin, especially in the cases of neuritis, has a decidedly better effect than the oral. Intraspinal infection has recently been used with very good results in cases of intractable pain, *e. g.*, from inoperable cancer and in nervous system diseases of unknown etiology.

METRAZOL IN THE TREATMENT OF THE PSYCHOSES*

CARROLL C. TURNER, M.D., Memphis

BY WAY of introduction an outline of the history and principles of the insulin and metrazol shock treatments should be presented since the insulin treatment was the forerunner and since there were a good many hypothetical principles in the use of insulin which suggested the use of metrazol. Sakel is erroneously recognized as the originator of this treatment. Insulin therapy obtained its distinction from Professor Otto Pötzl of the Vienna Clinic. Sakel himself stated "practical application of this treatment begins at the moment when Professor Pötzl introduced it in his clinic." The therapy dates back to 1928. To Sakel must be given the credit for the courage in the use of this treatment and for working out the hypothetical principles upon which it is based. In the treatment of morphine addicts he first of all noticed that insulin abolished the usual irritation of the nerve cells following the abstinence from morphine. From this observation he attempted to influence other states of excitation by means of insulin. It was then by chance that he produced deeper hypoglycemic reactions than he had intended and he was able to then observe that these reactions lead to much quicker and more substantial alterations in the mental states. He laid stress on the epileptoid phenomena which sometimes accompanied deep hypoglycemia and in order to make them still more constant he resorted to the use of several drugs to bring on epileptic seizures, among them being strychnine, camphor, and cardiozol. He tried these drugs before and during the state of actual insulin shock as a means of provoking seizures. In the course of years he abandoned such remedies aimed to produce convulsions, for, as he says, "I have gained the impression that hypoglycemia as such and nothing else acts on the psychoses." He subsequently admitted that the "epileptic attack prepares

the way for the favorable results of insulin shock therapy." As he compared the two, "the epileptic attack is the artillery which prepares the way for the hypoglycemia, the infantry in the battle against the disease." Sketchily, Sakel reasoned that the nerve cells in their evolutionary development have acquired newer and newer fiber pathways as the more highly developed processes became necessary. These fiber pathways are of a more highly specialized order and are connected with a great many various functioning centers. They are of recent phylogenetic origin and are, therefore, the first to suffer attack by disease processes and also are the first to recover after the disease process has been terminated. That in the psychotic states these fiber pathways are blocked and that the impulses resort to the older pathways which represent the lower physical functions and also that certain impulses over these new pathways are short-circuited to other pathways, thereby resulting in reactions which are abnormal and out of stride with the usual expectant reaction and result in abnormal reactions. That insulin in some way impedes this flow of impulses over the old pathways and also inhibits the short-circuiting mechanism to the other centers. That convulsive seizures in some way produce a cellular shock which prepares the stage for the insulin results. And so hypoglycemia or insulin shock became the accepted therapeutic approach in one particular mental disorder, schizophrenia.

In 1934 Meduna first published his article on the use of pentamethylenetetrazol (cardiozol) and recommended it not only for its efficacy in treatment of this disease, but proclaimed its greater simplicity, its lower cost and its greater degree of safety as compared to insulin shock treatment. It had previously been noted and was a sort of a psychiatric dogma that epilepsy and schizophrenia were not congenial bedfellows, and as W. Meyer-Gross stated, "up

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to the present no real combination of schizophrenia with genuine epilepsy has been described." As to constitution, the epileptic is usually stocky, raw-boned, athletic, with a massive head and powerful muscles. The psychiatrist thinks of the schizophrenic as the athenic-leptosomatic individual. Pathologically, Alzheimer has demonstrated that the brain of an epileptic shows an excessive amount of glial reactions with transitions from sclerosis tuberosa to actual gliosis. On the other hand, Josephi and others found that the brains of schizophrenic patients showed a crippling of the glia system with not only an incapability of hyperplasia, but not even the ability of replace the destroyed nerve cells. Thus we see a contrast not only in somatic types, but also in the activity of the glia systems between the epileptic and the schizophrenic. In 1929 Professor Nyirö found 1.5 per cent of spontaneous recoveries among 176 epileptic patients, but if the epilepsy was associated with schizophrenia sixteen per cent recovered. In 1930 George Müller wrote: "The beneficial influence on the course of the disease schizophrenia, namely by the epileptic attack, reminds one of the passive effect of an acute febrile illness on the course of a mental ailment." A. Glaus in 1931 examined 6,000 cases of schizophrenia in the University Clinic of Zürich. In these he found only eight cases of epilepsy. Following an analysis of these eight cases he drew the following conclusion: that a severe case of epilepsy would make a subsequent onset of schizophrenia unlikely. G. Steiner and A. Strauss declare that epileptic seizures are so rare in schizophrenia that there is justification for doubting the psychiatrist's diagnosis in cases where a record of the two exists in the same case.

And so Meduna set up the following working hypothesis: "Between schizophrenia and epilepsy there exists a sort of biological antagonism which must be expressed in the pathological course of the two diseases. Without being able to characterize these pathological actions, I feel justified in asserting *a priori* that these courses are either mutually exclusive or they do at least to a great degree weaken each other in

their mental effects." In 1935 H. A. Pas-kind of this country commented "that induced convulsions may be of value in treating states in which convulsions are ordinarily absent sounds too optimistic to be true. The same antagonism that the author postulates between epilepsy and schizophrenia should also exist between epilepsy and manic depressive psychosis, paranoia and the neuroses, since convulsions are uncommon in these states. Hence, if induced convulsions benefit schizophrenic patients they should benefit patients with the other diseases mentioned. It will be interesting to see how this treatment fares with future trial." The above quotation constitutes the basis for this presentation not only in schizophrenia, but in other psychoses and neuroses.

For those unfamiliar with this treatment we will sketch the technique as advocated by those who first introduced this treatment and which we have seen fit to follow. The patient is placed upon the bed after first loosening the clothing, and made as comfortable as possible. He is reassured to overcome his fear of what is about to ensue, but all sedatives are contraindicated on account of their usual depressing effect upon the cortical motor centers. The usual initial dose is five cubic centimeters of a ten per cent metrazol solution. This is given intravenously with a large needle as it is desirable to get the whole quantity into the circulation as fast as possible. This initial dose will vary in different individuals. We have had four cubic centimeters induce convulsions immediately, but have had ten cubic centimeters to entirely fail to produce any convulsive phenomena. This is in keeping with the idea that the convulsive threshold varies in different individuals. Immediately after the introduction of the metrazol the patient has a premonitory cough which is sometimes accompanied by a typical epileptic cry. He then lapses into an unconscious major epileptiform seizure. Peculiarly enough this seizure is ushered in by a sudden extension of the lower jaw, in contradistinction to the trismus and clonic contraction of the mandible of true epilepsy. This allows for a not infrequent

complication to the convulsion, namely, subluxation of the mandible. To avoid this an attendant is instructed to forcibly push against the chin with the heel of the hand during the seizure, at the same time inserting a mouth gag to prevent biting of the lips, cheeks, and tongue during the latter stages of the seizure. Another frequent complication which has been referred to in the literature, but which we have fortunately not encountered, is the dislocation of the shoulder joint during the seizure. The duration of the seizure is about thirty seconds followed by a short period of coma lasting another thirty seconds, after which the patient is awakened, lucid, and completely unconscious of what has happened. Some patients describe their experience as if they had suddenly fallen asleep. Others state that they feel like they have had an anesthetic. We have noticed during the convulsions a very marked pylomotor reflex of the head, neck, and those parts of the body under control of the upper cord segments. Also a very marked peripheral vasomotor spasm with blanching of the head, neck, and chest. During the seizure the pulse is definitely accelerated and immediately following the seizure the respirations are rapid. We have had two patients to spurt urine during the seizure.

Following the seizure the patient complains of considerable lassitude and some anxiety with the usual muscular soreness attendant upon the convulsion. Some psychiatrists are giving this treatment in the office, allowing the patient to leave immediately after convulsive phenomena is finished. Personally, I disagree with this attitude of nonchalance and insist on hospitalization for the treatment. We usually follow the treatment up with a regimen of mild sedation orally and allow the patient to sleep for several hours thereafter. This is not always necessary in every case. One patient now under treatment gets up immediately after the convulsion and goes into the dining room.

Contraindications to the metrazol treatment have been given particular attention by the various physicians using this form of treatment and have been pointed out by

many authors. Among these the presence of cardiovascular disease heads the list. Meduna lost one patient among 500 patients treated who already had aortic insufficiency and myocardial degeneration. As to the convulsion itself, metrazol is altogether without danger. E. K. G. investigations taken before and after the convulsive seizures of metrazol shock show no noteworthy changes. In four cases studied by Dr. Lax in Budapest, there was a depression of the T-wave after convulsion as compared with no such result before the convulsion. Meduna states that his studies show no changes in the E. K. G. indicative of myocardial damage after metrazol convulsions. In cerebral arterio vascular disease with severe hypertension, it has been stated that the treatment is contraindicated. Yet we know that this condition exists in a great many cases of involuntal melancholia and in a great many of the depressive states associated with cerebral arterio vascular diseases. And these cases are among those that yield most favorably to metrazol treatment. In our own series two cases of hypertension were given the metrazol shock treatment and following the treatment the blood pressure was lower. In one of these there is cardiac arrhythmia prior to treatment, there being frequent extrasystoles. Following treatment this had almost entirely disappeared. Acute febrile illness is a contraindication for the metrazol shock treatment and in cases of insipient pulmonary tuberculosis it probably should not be attempted. Not sufficient time has elapsed and an insufficient amount of post-mortem material has been available to determine the amount of actual damage done to the cerebral architecture as a result of metrazol convulsions.

The literature contains very little concerning the use of metrazol in other psychoses than schizophrenia. A. E. Bennett has recently reported his results in the bulletin of the Meeninger Clinic in the use of metrazol in the depressive psychoses. Like him, we stumbled into the use of this therapy in the depressive states when all other medications and procedures had failed to benefit a depressed manic over a period

of several months. Following a manic episode with suicidal attempt we decided to prostrate her by induced convulsions. Upon the administration of five cubic centimeters of metrazol intravenously she went into an agitated delirium and exhibited the usual vasomotor and pylomotor reactions, but failed to go into the convulsive stage. Immediately following this mild degree of reaction, however, she was much better and on the following day was free from depression, exhibited interest in her surroundings and in the activities of the institution for the first time since her admission and began to cooperate in occupational therapy. This gratifying surprise led us into the use of metrazol in a case of involuntional melancholia. This patient was an elderly woman transferred from the B'nai Brith Home with objective depression and a previous attempt at suicide which prompted her transfer. She exhibited marked improvement after her first metrazol shock, during which she had a rather hard and prolonged major epileptiform seizure. In another involuntional melancholia where we had previously tried insulin shock therapy with no beneficial results, metrazol produced the desired effect. We acknowledge the fact that manic depressive disease is prone to very sudden and spontaneous remissions regardless of treatment. And we have no controls by which we can determine a recovery of spontaneous type from one as a result of induced convulsions. However, it has been our experience that in the depressed phases of this disease, and particularly those occurring in the involuntional period, that recovery is never complete and improvement is very slow. We feel, there-

fore, that we are justified in attributing our results to the use of induced convulsions. Two cases of psychoneurosis have yielded most satisfactorily to this treatment. In one of these patients, after the first shock, she gained insight sufficiently to realize that she had improved, and thereafter requested the metrazol shock treatments at periodic intervals. This patient was discharged home a month ago and a letter from her states that she is entirely well. Two cases of puerperal psychosis entirely recovered following the use of metrazol shock treatment. One of these patients was of definite schizoid pattern in her personality and her history prior to the onset of her psychosis justified the opinion that she sooner or later would develop a psychosis with many features of schizophrenia. It was for this reason that we decided to use metrazol in her case and since the results obtained were satisfactory, we followed this treatment with a similar case who was admitted to the sanatorium shortly afterward. Ten per cent of the psychoses in all women occur during the puerperium and when we realize that this type of psychosis is frequently fatal, I do not believe that we can attribute the recovery in these two cases to spontaneous occurrences.

In conclusion, it would be too optimistic to assume that metrazol shock therapy is a panacea in all mental ills, nor can we presume that it is of recent acquisition in our therapeutic armamentarium. Since the early days of psychiatry, various types of shock have been known to produce unexpected and favorable results. Physiologically, this is a result of an interplay between the emotions, the sympathetic nervous sys-

SUMMARY OF CASES RECEIVING METRAZOL SHOCK TREATMENT

DIAGNOSIS	Number of Cases	Number of Shocks	Improved	Unimproved
Dementia Praecox	5	41	5	
Involuntional Melancholia	4	28	3	1
Manic-Depressive, Depressed	2	3	2	
Manic-Depressive, Manic	2	14	2	
Psychoneurosis	2	4	2	
Puerperal Psychosis	2	4	2	
Toxic Psychosis	1	2	1	
Paranoia	1	1		1
Totals	19	97	17	2

tem, and the endocrine glands. Psychologically, the trigger element is in the higher centers which set off the emotions. Just what the mechanism is in induced convulsions is at present and may always remain an uncertainty. But we feel that Sakel's hypothesis is logical and in accord with other similar neurophysiological principles.

TREATMENT OF DEMENTIA PRAECOX

INSULIN

NUMBER OF CASES	NUMBER OF SHOCKS
7	148

A. IMPROVED 5

B. UNIMPROVED 2

METRAZOL

NUMBER OF CASES	NUMBER OF SHOCKS
5	35

A. IMPROVED 5

Case No. 105.—Mrs. B., age fifty-two, Memphis, Tennessee. This patient was first seen five years ago, at which time she was exhibiting delusions of a religious nature and hallucinations in the auditory field. The onset of these symptoms was rather abrupt. However, for several months prior to the appearance of these symptoms this patient had shown evidences of an abnormal religious interest. She became overactive and obsessed concerning her religious duty and interests. As these progressed she became more and more withdrawn from her family and exhibited a definite change in personality. She preferred to be alone, and was frequently seen to be sitting in an attitude as if she were listening to some one talking to her. The family took her to Hot Springs, Arkansas, where she became immediately worse, and when it was evident that she was definitely psychotic, they returned home with her. Upon her return she insisted that she had been married to a doctor who had examined her for some disability at a previous time. She denied any marital affiliation with her husband, and steadfastly maintained that he was not her husband. She is the mother of two grown children, both of whom are married, and one of whom has a child. The family life of this patient has always been most agreeable. Her husband has been indulgent to her and to the children, and

there never has been any marital or other domestic infelicities. She has been a conscientious wife and mother and a competent housekeeper. Prior to the onset of the symptoms this patient was operated on for plastic work in the pelvis, and for the removal of her appendix. During convalescence she had a period of agitation and became so disturbed that the abdominal wound partially reopened, and a ventral hernia resulted. After her admission to the sanatorium she maligned the surgeon who had operated on her and he became a part of her delusional system.

She was admitted to the sanatorium in 1935 and has been there ever since. Her hospitalization has been marked by a complete withdrawal from normal life, and she has led a fantastic existence alone in her room. She was resistive, antagonistic, refused to come out of her room, or see her family, and it became necessary to turn her entire care over to one of the attendants to whom she took a particular fancy. Her family moved her own furniture and pets into the sanatorium so as to make things as homelike and comfortable as possible. She took an interest in her canary birds and radio which she left on most of the time. During her whole wakeful hours she carried on a continuous conversation with fantastic individuals, whom she referred to as her "spirits." At times she was very loud and profane, necessitating her room being soundproofed as a protection to the other patients.

The general physical examination was normal. Blood pressure was 160/90. The neurological examination was negative. The eye grounds were normal. Urinalysis was normal. Blood and spinal fluid were normal.

In September, 1937, we decided to resort to insulin therapy, although the duration of her disease and the general type of her personality precluded any hope for beneficial results. A private nurse was put with her and insulin treatment instituted as follows:

September 6, 1937, 9:10 A.M., insulin U 30, fasting, profuse perspiration; 4:00 P.M., insulin U 40, food, profuse perspiration.

September 8, 1937, 8:05 A.M., insulin U 50, fasting, mild shock.

September 9, 1937, 7:20 A.M., insulin U 60, fasting, wet shock, slight twitching.

September 10, 1937, 7:45 A.M., insulin U 60, fasting, wet shock.

September 11, 1937, 7:45 A.M., insulin U 70, fasting, wet shock.

September 12, 1937, 7:45 A.M., insulin U 80, fasting, no reaction; 3:55 P.M., insulin U 70, food, wet shock, slight convulsion.

September 14, 1937, 7:30 A.M., insulin U 80, fasting, wet and dry shock, three-hour coma.

September 16, 1937, 7:00 A.M., insulin U 90, fasting, wet shock, noisy; 10:05 A.M., insulin U 30, fasting, coma.

September 18, 1937, 7:05 A.M., insulin U 100, fasting, wet and dry shock.

September 21, 1937, 7:00 A.M., insulin U 110, fasting, wet shock, two-hour coma.

September 23, 1937, 7:00 A.M., insulin U 120, fasting, wet shock, noisy.

September 27, 1937, 7:55 A.M., insulin U 130, fasting, wet shock.

September 29, 1937, 6:55 A.M., insulin U 140, fasting, wet shock, coma.

October 1, 1937, 6:55 A.M., insulin U 150, fasting, wet shock, twitching, coma.

We terminated the insulin shock therapy at this time to observe the patient and take stock of her condition. She exhibited no improvement whatever. She became extremely antagonistic to her private attendant and was very vicious in her behavior, demanding that she stay out of the room continuously. She would not allow this attendant to serve her trays, or aid her in dressing, or any of the other usual duties of a special attendant. Referring to the treatment, she said that we were trying to kill her, and she called on fantastic individuals for help. We decided, therefore, to discontinue the insulin therapy, and no further attempt was made along the line of any specific treatment until May, 1938, at which time we took under consideration metrazol therapy.

May 9, 1938, seven and one-half cubic centimeters ten per cent solution metrazol intravenously. In less than twenty seconds

hard, generalized seizure. Following on the heels of seizure patient was semidelirious and disturbed, requiring physical restraint.

May 11, 1938, seven and one-half cubic centimeters ten per cent solution metrazol intravenously, satisfactory convulsive reaction.

May 13, 1938. Patient shows marked improvement. Her antagonism has disappeared and she allowed herself to be escorted into the sun parlor which was the first time she had left her room in many months. She consented to eat in the dining room.

May 14, 1938, seven and one-half cubic centimeters ten per cent solution metrazol intravenously, satisfactory convulsive reaction.

May 19, 1938, seven and one-half cubic centimeters ten per cent solution metrazol intravenously, hard seizure.

May 25, 1938, seven and one-half cubic centimeters ten per cent solution metrazol intravenously, followed by hard seizure. Patient got up immediately after seizure and went out and sat on the porch.

May 31, 1938, seven and one-half cubic centimeters ten per cent solution metrazol intravenously, followed by convulsive seizure.

June 3, 1938, seven and one-half cubic centimeters ten per cent solution metrazol intravenously, convulsive reaction.

June 9, 1938, seven and one-half cubic centimeters ten per cent solution metrazol intravenously, satisfactory seizure.

June 17, 1938, seven and one-half cubic centimeters ten per cent solution metrazol intravenously, satisfactory seizure.

June 27, 1938, seven and one-half cubic centimeters ten per cent solution metrazol intravenously, satisfactory seizure.

July 3, 1938. Not so well last three days. States that doctors here have wrong idea about her thoughts.

July 18, 1938. Patient more disturbed last few days. Also talkative at nights.

July 20, 1938, eight cubic centimeters ten per cent solution metrazol intravenously, satisfactory convulsive seizure.

July 22, 1938. Patient is disturbing, has become profane again. Sedative necessary.

July 23, 1938. Patient improving.

August 9, 1938. Metrazol shock treatment attempted. Patient was so resistive that it was impossible to get needle properly in vein and so treatment was postponed.

August 22, 1938, six and one-half cubic centimeters ten per cent solution metrazol intravenously, followed by hard seizure and a confused agitation and complete disorientation, which lasted about an hour, necessitating patient being restrained in her room.

August 24, 1938, eight cubic centimeters ten per cent solution metrazol intravenously, hard seizure. Patient out on lawn immediately thereafter.

This has been the last shock treatment in this case. The patient became so antagonistic to the treatment and dreaded it so that we decided to pursue no further metrazol shock treatment for the time being. Patient is continuing to improve and has completely adjusted herself to a normal sanatorium regime.

Case No. 101.—D. B., white female, age seventy, Tennessee. Admitted May 5, 1938. Discharged June 5, 1938. This patient, an elderly Jewish woman, unmarried, has been an inmate of the B'Nai B'Rith Home for elderly people for two years. She has suffered hypertension for a number of years, but otherwise her general physical health has been good. All her life she has been subject to moods, and depression has been her chief emotional tone. She has never exhibited any manic episodes until recently, when she attempted suicide in the institution where she lives, and that was the reason she was transferred to the sanatorium for treatment.

On admission she exhibited profound dejection and evident hopelessness. She was distracted, resistive, and uncommunicative. She preferred to be left alone in her room and cried most of the time. She refused food. Occasionally this depression was interrupted by agitation during which she paced the floor, wringing her hands and

groaning. Physically she exhibited an early degree of senile cachexia and malnutrition. She was rather dry, and on account of her refusal of food and fluids, tubal feedings and intravenous glucose were begun. Blood pressure 210/125. Heart was of normal rate. The first sound was indistinct followed by a sharp metallic second sound. The premature contraction occurred about every ten cardiac cycles. Urine contained a one plus albumen and was otherwise normal.

May 8, 1938. Narcosis was begun and the patient was kept in deep sleep for two days.

May 10, 1938. Blood pressure 180/110. The heart seemed to have improved on enforced rest.

May 12, 1938. Patient exhibited extreme agitation. She was quite disturbed, complaining of everything hurting her and weeping copiously.

May 14, 1938. Metrazol, five cubic centimeters, was administered. No convulsive phenomena followed this injection, but considerable improvement and definite change in the patient's whole personality occurred. She began to take an interest in the activities of the institution.

May 16, 1938. Out raking tennis court.

May 19, 1938. Metrazol, seven and one-half cubic centimeters, followed by hard convulsive reaction.

May 25, 1938. Blood pressure 175/110.

Following the last metrazol reaction, the entire depressive features of the case seemed to fade like a mist, and the patient was apparently perfectly normal. She went to and from the dining room and seemed to take a zest in her food, as a result of which she gained four pounds. She ceased her many physical complaints; her weeping disappeared; she was companionable, friendly, and exhibited an interest in the welfare of the other patients. She was discharged from the sanatorium June 5, 1938.

Inquiry from the B'Nai B'Rith Home recently informs us that this patient has apparently completely recovered.

PROGRESS IN MEDICAL SCIENCE

PHILIP H. LEVINSON, M.D., Chattanooga

IN THE MARCH of medical science there have been but few retreats. An army of workers has pushed unceasingly forward over pathologic terrain considered impassable and attacked positions of disease held unconquerable. And it is significant that until the most recent date the great advances in their fight have been made by the simple private rather than the well-equipped leaders of the line. The discovery of microorganisms, the advances in anesthesia, the delineation of new diseases and foundations of prophylaxis, the new methods in treatment were all formerly the accomplishments of the average family physician.

Today, however, having routed many of the main forces, such as smallpox and yellow fever, we are confronted with new and subtler diseases and unusual forms of those diseases already common. Aided by our advances, we are living longer to be attacked by the enemies of the later years. And our new modes of working invite affections of the heart and nervous system.

Our attack against disease has then become so broad that we perforce adopt novel and unusual weapons, scientific instruments, and applications that require a worker's lifetime study. Today we have specialists and research fellows; experimental work is expensive and intricate. Yet even with this within the past few years alone, the finding of the cause of agranulocytosis, a serious blood disease, could be accredited to clinical study. And the rearing of the Dionne quintuplets is an example of the ability of the general practitioner who works without laboratory aid.

Some will see no evidence of this progress in medicine. They will ask: "Don't people die today as formerly?" What of heart disease, cancer, nervous disease, nephritis? Even old age is a disease, and why not finally death itself? These appear as almost insurmountable obstacles, yet even

they must some day at least partially recede before the medical onslaught.

Medicine fights with four elements along numerous fronts.

I. We have a system of espionage wherein we discover our enemies' mode of attack and prepare ourselves for it. This we call prevention or prophylaxis. For example, it has been found that diabetes is to an extent hereditary. But for its inception the susceptible individual must become obese. Hence, an avoidance of overweight will probably cause the person to avoid the disease.

In the field of communicable diseases, we have made notable advances. Many disorders are properly classified today as "preventable" diseases. The diphtheria mortality could readily be cut to almost zero. With the simple Schick test we can readily determine if a child is susceptible and if so practically complete protection can be insured by a single hypodermic injection. The Dick test tells us the same for scarlet fever. Sauer's vaccine lends hope toward the prevention of whooping cough. There is even a preventive (toxoid) for tetanus.

Most notable in prevention (and diagnosis and treatment as well) has been the utilization of our knowledge of hypersensitivity or "allergy" as it is scientifically called. Thousands have been relieved of the sneezing of hay fever and the paroxysms of asthma through preseasonal injections. All substances judged by man as edible are not compatible with the physical make-up of every individual. The delicious tomato to one is the poisonous apple to another. Allergists today clear up many obscure maladies of yesterday and by direction and prophylaxis aid us in avoiding unpleasant and distressing diseases.

Since the naming of the substance vitamin by Funk, we have found that there are many such important food aids. Vitamin A prevents certain eye disorders; vitamin B protects against beriberi; vitamin C pre-

vents scurvy; vitamin D prevents rickets; vitamin E is necessary for reproduction; vitamin G prevents pellagra. With the knowledge of these necessary food products, we are able to avoid common diseases of yesterday. Bowlegs is recognized no longer as being due to early walking of the child, but results from rickets, a bone disease easily prevented with cod-liver oil (or similar products) and sunlight. Pellagra is still too prevalent in the South, but the proper diet readily prevents its progression.

II. Our second great fighting force is diagnostic advancement, the finding of new diseases, the classification of older ones. It is probably the most important of all, for it prepares the way for the cleanup soldiers of therapy.

Animals have proved invaluable in the study of the diseases of man. We have found too that the diseases they have are frequently transmitted to humans as well. The recurrent fever of the goats of Malta, transmitted here in the milk of cattle, became common in man and is known as undulant fever. A serious disease known as tularemia was found amongst those who dealt with rabbits. Psittacosis, a disease of parrots, became widely publicized because of a recent epidemic. Even the small black widow spider proved a formidable foe.

Agranulocytosis, a new and dangerous blood disease in which most of the white corpuscles disappear, was found to be due to the use of certain drugs. Pneumonia was proved to be caused by a great variety of types of bacteria, several of which are highly susceptible to serum treatment.

Mechanical and electrical methods assumed great importance in diagnosis. The simple stethoscope was magnified to the phonocardiograph that recorded the sound of heart murmurs. More important, the electrocardiograph classified abnormal heart rhythms and revealed the condition of the heart muscle to an extent never before realized. With its graphic record of an electric impulse traversing the heart muscle, it carried medical diagnosis to a degree hardly conceivable to our medical predecessors.

In the field of X-ray diagnosis there were several notable advances. Graham and his

associates in St. Louis devised a test wherein a dye absorbed from the blood was excreted through the gall bladder. This dye was opaque to the X-ray. It opened an enormous new field of gall bladder diagnosis since diseases of that organ were formerly only surmised. Later Swick did the same for kidney visualization.

It was found that opaque solutions could be introduced into the sinuses and bronchi, lending aid in the finding of diseases there. Bronchiectasis, a disorder wherein the patient expectorates enormous quantities of sputum, became readily diagnosable in its early stages.

A most valuable discovery was that the X-ray late in pregnancy would aid in determining whether a mother could give normal birth to the child.

Allergic diagnosis proved that many of us were sensitive to pollens, foods, dusts, dyes, hairs, a great variety of natural and manufactured products and even to heat and cold. The cat or the dog, the husband's dandruff, the wife's face powder, the Sunday rotogravure might all cause unpleasant disturbances.

The study of the glands of internal secretion or endocrines provided a brilliant new movement in medicine. For so many years this had been a playground for the quacks. It was held that endocrinology was eighty-five per cent hokum, ten per cent theory, and five per cent fact. Yet knowledge in this field is growing at an enormous pace. One does not wait for a disabled heart to diagnose hyperthyroidism or poisonous goiter. Pregnancy can be diagnosed very early by a simple test of the urine. The pituitary gland at the base of the brain was shown to control growth, water excretion, sugar utilization, shape of features. No longer can it be said that man's height is predetermined, for growth extracts from this gland have actually added to an individual's figure. We have found that we are all organisms, the nature, appearance, activity, and personality of which are all dependent upon the minute quantities of products secreted by these glands.

III. Treatment or therapy is the third great fighting force and is indeed the con-

quering power for which the espionage and shock troops of diagnosis and prophylaxis are the great preliminary aids.

But treatment is not drugs alone. Indeed it can be said of the medical profession that any form of therapy, be it massage or mental exercise, will be utilized if it can be proved that it is of value. During the past few years every conceivable type of stimulant, excitant, irritant, or depressant has been applied from the nurturing of maggots in wounds to the use of psychotherapy in infants.

Progress in endocrine therapy has been particularly active. It seems impossible that before 1922, when Banting and Best isolated it, there was no such product as insulin. The number of lives it must have saved and those made more livable must be countless. Indeed there are many alive today who are here only because they were fortunate enough to have their diabetic coma at the time insulin had just become available. Today there is a new slowly absorbed form of insulin called insulin protinate that will aid in the treatment of severe diabetes.

Cortin, an extract of the covering of the adrenal gland, analyzed by Kendall in 1934, has prolonged the lives of many who had what was previously considered a hopeless condition, Addison's disease.

New glandular extracts have removed the fear of the change of life in the female and have aided tremendously in controlling disturbances of the sexual organs prior to this time in her life.

Progressive pernicious anemia formerly meant precisely what the name implied, a continuous ultimately fatal disease. With the discovery of the liver treatment thousands have been saved. For this a grateful world has awarded to Drs. Whipple, Minot, and Murphy the Nobel prize.

Serum treatment has proved of great importance in certain types of pneumonia and of definite value in erysipelas and scarlet fever. Malaria is now cured in five days without long-drawn-out quinine therapy. Snake venom is being employed to control hemorrhage and antivenom is used to alleviate the poison of snake bite.

New means of mechanical therapy have been produced. The "respirator" automatically breathes for the individual with an infantile paralysis that affects the diaphragm. Passive exercise of blood vessels that are diseased is brought about by machines that alternately apply pressure and vacuum to arteries.

The bronchoscope and esophagoscope are instruments by which the interior of the lungs and stomach are examined. In creating and using these devices, Dr. Chevalier Jackson has made one of the truly great discoveries in medicine. For with the use of them innumerable objects have been removed from lungs and esophagus that would unquestionably have caused the death of many if no such facilities were at hand.

We have found that some disease bacteria are incapable of surviving in an environment that is still viable for the human. The syphilitic organism is one of them, and with this in mind was devised one of the most unusual of all treatments, the malarial therapy of paresis or softening of the brain. For with each bout of fever, great multitudes of organisms must be killed. It is remarkable how individuals whose mental reactions seem forever to have left the normal are often returned to a rational condition with this form of therapy. Similar treatment with heat is now being given by various physical appliances as well.

Anesthesia has been constantly improved. Often women today experience no pain at childbirth when only a few years back it was the most distressing of all human experiences.

Surgery has consistently advanced and widened its field. The use of air in the lungs to rest them, bone grafts in diseased joints, and the application of surgical procedures to the chest has immeasurably shortened the duration of the tubercular's illness, if not saving his life.

Surgery has attacked the circulating system. An operation has been devised to lower blood pressure in those individuals who dare it. Finding that a lowered thyroid secretion lessened the work of the heart, Levine, Blumgart, and others in Boston removed this gland in cases of severe

heart disease. Completely bedridden patients were often enabled to return to light activity.

Modern methods of treatment of broken backs enable the vast majority of patients to return to normal activity.

Neurosurgery, far from being a thankless task, has, by removing thousands of brain tumors, restored a grateful multitude to normal living.

Radium and X-ray therapy have now become commonplace. The skin disease that formerly resisted all manners of appalling salves now melts away before their gentle application. Many cancers and benign tumors are amenable to cure by them.

Such examples of medical progress in treatment could be extended indefinitely. It is not intended, or indeed possible, to mention them all, but the above are exemplary.

IV. Finally, we have one last great advantage in our fight against disease. It is an indirect assistance, but an important one. The fact is that the medical men of today are capable fighters, they are well trained.

No other professional group has maintained and required such a high degree of skill and such a long-drawn-out period of

study as has the American Medical Association for the American physician. Today the medical student must comprehend sciences the physician of yesterday did not dream of. Physics, chemistry, pathology, genetics, comparative anatomy may have been mysteries to the older practitioner; their mastery is of vital importance to the general clinician of today. The letters M.D. after a name signify adequate medical ability whether in Chicago, Chattanooga, or New York. Chattanooga has a full complement of practitioners and specialists including internists, allergists, pediatricians, orthopedists, surgeons, obstetricians, dermatologists, proctologists, ophthalmologists, otorhinolaryngologists, gynecologists. Our technical equipment is unexcelled, there being those of the latest deep therapy machines, radium, electrocardiographs, metabolism apparatuses, passive vascular exerciser, and facilities for any sort of diagnostic procedure.

Yes, medical science fights, but in all humility, as compared to the average physician of yesterday, our armies are all sergeants, for modern medical education has made it so there are no privates in our lines.

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H. H. SHOULDERS, M.D., Editor and Secretary

MARCH, 1939

THE ISSUE

SHALL PATIENTS AND DOCTORS RETAIN THEIR FREEDOM OF JUDGMENT IN THE MATTER OF MEDICAL CARE, OR SHALL THIS FREEDOM BE SURRENDERED TO SOME GOVERNMENTAL AGENCY?

EDITORIAL

WRITE YOUR CONGRESSMAN

The time has arrived when members of the medical profession must let their congressman know their opinions on the matter of medical legislation pending before the Congress of the United States. Many surveys have been made for the purpose of determining the effect of letters to congressmen and senators. The results indicate that an individual letter from a constituent is far more effective than an elaborate resolution by the officers of an organization.

The time has come when the individual doctors of this country must exert their individual influence in this matter of medical legislation. Medicine is being projected into the field of politics, not by the medical profession, it is true, but it has been projected nevertheless.

We are reproducing on these editorial pages several different discussions on the question in order that each reader may have before him many of the salient points at issue.

We, therefore, repeat the suggestion:
Write your congressman.

UNCLE SAM, M.D.

The following statement appeared as an editorial in the *Chicago Tribune* of fairly recent date. We regard it as very well worth the attention of the medical profession.

It is reproduced with the kind permission of the *Chicago Tribune*:

"President Roosevelt has submitted to congress a program of health insurance and subsidies. He avoided a direct request for appropriations and a federal bureau to give the money away, but asked for a 'careful study' of the proposals of his interdepartmental committee. Senator Wagner announced at once that he is about to introduce a bill appropriating fifty million dollars to be spent in accordance with the presidential scheme; the money is to be divided, dollar for dollar, among the states which vote appropriations for the same general purposes.

"Senator Wagner seems to have regarded the request for 'careful study' as a euphemism by which the President avoided giving further offense to the medical profession. However that may be, it is certain that there is no emergency which justifies hasty action. The death and disease rates in this country have never been lower than in recent years and have been declining with the fewest interruptions for a century. Congress can take a long time to consider the medical problem without the slightest risk of causing a boom in the undertaking business through failure to pass a federal health law. The hazard, indeed, is all in the other direction. It is by no means certain that the interference of the government will improve the quality of medical services; many disinterested persons believe the contrary effect is to be expected.

"A news item from Philadelphia a few days ago may have point in this connection. A young girl died there of an overdose of strychnine. She was on relief and had presented her physician with a relief order for medical services. He was in a hurry, he

testified, and in his haste had prescribed twenty grains instead of the half-grain he had meant to give. The doctor's testimony raises the question whether haste and the resultant carelessness in the examination and treatment of patients are not far more likely to occur under a government-dominated organization of medical practice than at present. There is a good deal of evidence from England, Germany, and other countries where government health insurance schemes are in practice to indicate that they have promoted slapdash methods.

"A feature of the President's message which deserves attention is the fact that the demand for federal aid comes not from the states, but from Washington. If conditions are as serious as the President intimated, it is remarkable, indeed, that none of the legislatures, so far as we are aware, have taken steps to remedy the situation along the proposed lines. It is absurd to pretend that even the poorest of states is too poor to find money to protect its citizens' health if large numbers of them are greatly in need of such protection. The states all build roads, maintain universities and libraries, and engage in a great many other activities which are certainly no more urgent than the maintenance of life. There is the basis here for the suspicion that Washington is again exaggerating in order to frighten the country into new appropriations and new extensions of federal power.

"The trend all over the world is toward totalitarian government. Those in this country who really wish to preserve freedom can make no greater mistake than to build up new instruments of centralized power. The citizen who has been taught to turn to Washington for help when he is sick may be expected to look to Washington instead of himself for everything else that he needs or thinks he needs. It is not to be doubted that the social insurances introduced in Germany under Bismarck helped clear the path for Hitler."

THE PLATFORM OF THE COMMUNIST PARTY OF THE STATE OF NEW YORK

The following five planks were adopted

as the platform of the Communist party of New York State:

ELECTION PLATFORM

I. *Maintain and Extend the Rights of Labor*

Constitutional guarantees (modeled after Gootrad proposal) and strict enforcement of legislation recognizing the right of collective bargaining culminating in a written agreement, right to strike and picket, right to jury trial in labor cases, and prohibition of anti-labor injunctions. Ratify the Child Labor Amendment. Extend Minimum Wage Law to all workers and establish thirty-hour work week with no reduction in pay. Extend workmen's compensation law to include domestic and agricultural workers.

II. *For Jobs, Relief, and Security*

Amend Public Welfare Law to make cash relief mandatory throughout the state; increase state's contribution to municipalities for relief from forty to sixty per cent; set state-wide minimum relief standard based on cost of living; provide for trade union representation on State Board of Social Welfare. Amend State Unemployment Insurance System to include all workers, with increased grants extending throughout period of unemployment. For increased state contributions for mothers' pensions, old age relief, the blind, and the handicapped. For state appropriations to expand WPA.

III. *Save Farmers from Monopoly Control and Robbery*

For milk control legislation modeled after McElroy-Young Bill providing for democratic organization and collective bargaining rights of farmers without dealer interference; guaranteeing minimum price to farmers based on cost of production and abolishing classification system.

IV. *Protect and Improve Health of the People*

Through a state-wide system of compulsory health insurance equal to two-thirds of wages with no contributions by workers in low income groups (modeled after Wagner Bill). Expansion of medical service to provide free medical, hospital, dental, and nursing care to all with incomes under \$2,500 a year (modeled after DeMatteo Bill). A state-wide system of rural health centers

with hospital and clinical facilities. Provide for increased state appropriations for maternal and infant care, tuberculosis, venereal, and mental disease cases.

V. Housing

Broaden Minkoff Rent Control Law to prevent rent increases and evictions of all low-income families. A comprehensive state and local slum clearance and low-rent housing construction program, with subsidies to keep monthly rentals at a maximum of five dollars a room. Tax exemption on first \$2,500 on homes worth up to \$7,500. Extend moratorium to prevent foreclosures on small homes for nonpayment of interest over three per cent and abolish deficiency judgments.

This is of interest to the medical profession because it indicates the groups that are sponsoring radical medical legislation in this country.

It is perfectly obvious that a person can have a communistic philosophy of government without joining a communistic political party. Such people are probably more dangerous than the actual communist, for the simple reason they will parade as one thing when in actuality they are another.

SOCIALIZED MEDICINE

We are indebted to the Public Relations Bureau of the State of New York for the privilege of running the following discussion by Dr. Peter Irving, Secretary, Medical Society of the State of New York:

"In many ways medicine is now and for a long time has been socialized. Sometimes people lose sight of this fact. The term 'socialization' is used here to imply the use of community property, in this case tax funds, to pay for the control of disease by methods principally educational or by way of subsidy for the care of the indigent.

"Public health activities of departments of health are examples of socialization in medicine, and they have had thorough acceptance by the private practitioners over the course of years. Especially in New York State the doctor is enthusiastic over the educational accomplishments. As evidence, we have the drop in mortality rate from tuberculosis and the advances in treat-

ment of pneumonia as typical instances. The practitioner has said as recently as September 17, 1938, through the formal action of the American Medical Association, that he would like to see this type of service extended in several ways.

"But when the state endeavors to extend its medical activities to the treatment of self-supporting patients, threatening to accompany the doctor across the threshold of the sickroom, and place the hand of government upon the patient's pulse, then the doctor must clearly register his remonstrance.

"Compulsory health insurance would foist a huge bureaucratic system of medical care upon the American wage earner. Under this scheme, the services of physicians are paid for by a government-controlled bureau supported by pay roll contributions, contributions by employers, and contributions from the government. In foreign countries where it has been instituted, only the workman making the contribution and not his family is cared for. Farmers and professional people not employed in industry are not within its scope.

"Everybody is entitled to know why the practitioner has reached the conclusion that it would not be wise to introduce this form of socialization of medicine in the United States. I believe that the practitioner's point of view has not been accurately understood. I say this because I have heard from many quarters the comment that when the doctor opposes compulsory health insurance he is thinking first of his pocket-book. That is not correct. It is a totally different motive that is at work in him.

"He seeks suitable conditions that will permit him to get the satisfaction that comes from rendering his service well. His self-interest and his patient's self-interest coincide. I shall have to invoke a bit of psychology to make clear this picture of the practitioner's attitude, and to do this, indicate briefly the steps taken in turning a young man into a doctor. After his scientific studies, he is taught how to treat disease by demonstration and experience in hospitals. He acquires the skills needed. During this process he learns on the con-

scious level to seek the satisfaction which can come to him only from the successful application of his teachings, the use of newly acquired skills in finding out what is the matter with sick people, and in applying proper remedies.

"In this way, his personality becomes emotionally conditioned, and the desire for this kind of satisfaction goes deeper and deeper into his subconscious self. Proper medical work is then his emotional outlet. And, that is a good thing for the patient.

"When he is called in case of illness, he is confronted by a patient who also desires a certain satisfaction—that which can only be obtained by alleviation of his trouble. In any given medical situation, then, two legitimate and proper desires act in unison—both seeking a goal of accomplishment in recovery of the patient, and at one and the same time for each, satisfying a different personality need.

"While this cooperative psychic process is in operation, the factor of how the doctor is to be paid enters into the picture not at all on either side. It is only afterward in those hours when the doctor must balance his finances and pay his bills that the economic factor enters into the relationship. When the practitioner comes to judge such a thing as compulsory health insurance he examines closely the conditions it would set up as to whether they might interfere in any way with his patient's interests and with his own main self-interest—the satisfaction he secures from the successful application of his skills.

"Under compulsory health insurance, the practitioner finds vices inherent in the system which cannot be removed. He thinks they would affect the service he is able to give. They make for less adequate medical work than he is capable of giving, and therefore are against the interests of both himself and his patient.

"The system hampers the true patient-physician relationship. This the practitioner regards as basic and essential for successful medical service. He must have full confidence, built partly on reputation, but also on the way he measures up as time goes on as—responsible to his patient

first, last, and all the time. Under compulsory health insurance there cannot be free choice of physicians as we have it now; there is substituted the right to choose from a panel. And the doctor is responsible not alone to the patient, but to a new figure in his affairs—a government bureau with non-medical men in positions of authority.

"The system tends to encourage malinger. The worker who depends on the panel doctor to get his wage allowance while disabled may only too readily yield to the temptation to prolong his stay away from work, and may even simulate disability to get a certificate, or ask the doctor to certify him, contrary to the fact. These situations observable in foreign countries under compulsory health insurance interfere with the proper relation between the physician and his patient.

"The practitioner dislikes the creation of red-tape mechanism—the intrusion of an administrative office force supervising the doctor's methods of diagnosis and treatment, and dictating the remedies he uses. The physician's office tends to be overcrowded so he has less time than is required to carry out in proper fashion his work of diagnosis and treatment. It would be difficult to continue the postgraduate study he should pursue throughout his medical life. To be forced to do a poorer medical job than he knows how to do means dissatisfaction to him and ultimately to his patient, also.

"If the people of the United States allow medicine to be completely socialized in this country—and compulsory health insurance is a step that way—they would issue, in effect, an invitation for the socialization of other pursuits, including business. How much that is a real danger is for the people to decide, and certainly the businessmen of the nation may find in this prospect an entering wedge for complete socialization of all types of business and professional services.

"Of course the doctor is interested in any measures that can be taken which help more people to get good medical care. There are several ways, some of which are already at work, and others which can be

set up, without the defects of state medicine or compulsory health insurance, to help the low income group get medical care.

"Voluntary hospital insurance has proved itself successful. It helps to spread the cost of hospitalization by the prepayment method to cover the risk of hospital expenses, thus relieving to a considerable degree the burden for each individual. It does not cover the doctor's bill.

"Voluntary nonprofit cash indemnity insurance for budgeting the doctor's bill is the latest and most promising suggestion, and its development has been officially approved by the American Medical Association. This is by no means so simple a matter as hospital insurance, which has fixed *per diem* costs, but it holds out real hope of budgeting for catastrophic illness, the expenses of which are often so hard to bear. In New York State it is not even as yet permitted under the insurance laws, but the New York State Medical Society will seek to obtain amendments so that such plans may be put into effect. In all probability these will come up in the next legislature and an enabling act will be passed. Similar plans are now working toward effective execution in many places throughout the country. It now remains for all of us to work out systems of the greatest benefit to all.

"These plans leave government out of their structure. They call for the organization of independent nonprofit associations, in the American tradition. Payment is made directly by the subscriber; it is not deducted from his pay envelope by law, whether he consents or not, as is the case with compulsory health insurance. Under indemnity insurance, the politician keeps his hands off. The doctor remains a healer, with no temptation to become a 'heeler.'"

PROGRAM OF THE TENNESSEE STATE MEDICAL ASSOCIATION

Jackson, Tennessee, April 11, 12, 13, 1939

The Madison County Medical Society appointed a committee on arrangements soon after the state meeting last year, composed of the following members:

DR. J. R. THOMPSON, JR., Chairman
DR. J. W. McCLARAN
DR. J. L. CROOK
DR. G. H. BERRYHILL
DR. JOHN POWERS
DR. TATE B. COLLINS
DR. S. M. HERRON
DR. JACK DOUGLASS
DR. BUFORD O'NEAL
DR. GLENN D. BATTEN
DR. CHAS. WEBB

This committee has been active. Plans for the coming meeting have been completed.

The program committee has been active. The committee has endeavored to arrange a program which embraces new subjects in medicine of wide general interest. It is the purpose of the committee to construct a program of the greatest possible interest to that large group of doctors known as "general practitioners."

It is obvious to anyone that a program consisting of thirty numbers cannot embrace all the subjects that are of interest at the moment, nor can it include all the personalities that are capable of presenting material of interest.

It must be admitted that no one can keep up with the progress of medicine without some understanding of the subjects included in this tentative program.

The program committee has followed the policy of naming two discussers. The idea is to promote discussion, not to hinder it. If a paper deserves criticism, it should be criticized. We also know that some of the best contributions, many times, are presented in extemporaneous discussions from the floor.

This year the program committee has been compelled to decline the acceptance of papers perfectly worthy to appear. The policy of accepting about thirty numbers is being followed for the reason that thirty papers are all that can be read, and it is unfair to an author to prepare a paper and then not be able to read it. It is also not fair to rush through a program because it is too long.

EXHIBITS

An essential part of any program today is the exhibits, both commercial and scientific.

Only products of merit, exhibited by standard houses, are accepted.

Scientific exhibits of interest and value will be on display.

Tuesday, April 11, 1939

9:30 A.M.

1. Brucellosis, with Report of Cases.

DR. W. R. BLUE, Memphis.

To Discuss:

DR. WHITMAN ROWLAND, Memphis.
DR. WM. A. DEMONBREUN, Nashville.

2. Epilepsy, Diagnosis and Treatment.

DR. J. P. GILBERT, Nashville.

To Discuss:

DR. E. W. COCKE, Memphis.
DR. FRANK H. LUTON, Nashville.**3. The Leukemias.**

DR. RALPH MONGER, Knoxville.

To Discuss:

DR. W. C. COLBERT, Memphis.
DR. DAVID W. HAILEY, Nashville.**4. Pellagra and Its Modern Treatment with Special Emphasis on the Borderline States (a special address).**

DR. JAMES B. McLESTER, Birmingham, Ala.

Tuesday, April 11, 1939**2:00 P.M.****5. Endemic Goiter.**

DR. LEE K. GIBSON, Johnson City.

To Discuss:

DR. J. A. REYNOLDS, Chattanooga.
DR. N. S. SHOFNER, Nashville.**6. Some Phases of the Anaemias.**

DR. R. E. CHING, Memphis.

To Discuss:

DR. L. C. SANDERS, Memphis.
DR. J. O. MANIER, Nashville.**7. The Differential Diagnosis and Treatment of the Diarrheas.**

DR. TIM J. MANSON, Chattanooga.

To Discuss:

DR. K. M. BUCK, Memphis.
DR. R. B. WOOD, Knoxville.**8. Brain Tumors in Children.**

DR. COBB PILCHER, Nashville.

To Discuss:

DR. NICHOLAS GOTTEN, Memphis.
DR. FRAZIER BINNS, Nashville.**9. Metrazol Treatment of Dementia Praecox, or More Frequently Now Called Schizophrenia.**

DR. H. B. BRACKIN, Nashville.

To Discuss:

DR. C. C. TURNER, Memphis.
DR. JESSE C. HILL, Knoxville.**10. Bronchoscopy, Uses in Diagnosis and Treatment.**

DR. W. D. STINSON, Memphis.

To Discuss:

DR. REESE PATTERSON, Knoxville.
DR. D. ISBELL, Chattanooga.**Tuesday, April 11, 1939****8:00 P.M.****BALL ROOM**

DR. JOHN JACKSON, Presiding

1. Presidential Address.DR. TOM R. BARRY, Knoxville.
President, Tennessee State Medical Association.**2. Medical Problems of the Day.**DR. ROCK SLEYSER, Wauwatosa, Wisconsin.
President-elect, American Medical Association.**Wednesday, April 12, 1939****9:00 A.M.****11. Acute Abdominal Emergencies, with Reports of a Few Unusual Cases.**

DR. JOHN B. HASKINS, Chattanooga.

To Discuss:

DR. G. A. COORS, Memphis.
DR. L. W. EDWARDS, Nashville.**12. Acute Rheumatic Fever.**

DR. J. J. HOBSON, Memphis.

To Discuss:

DR. F. T. MITCHELL, Memphis.
DR. JAS. L. BIBB, Chattanooga.**13. Carcinoma of the Stomach: An Analytical Study.**

DR. W. E. BRYAN, Chattanooga.

To Discuss:

DR. R. L. SANDERS, Memphis.
DR. E. L. RIPPY, Nashville.**14. Auscultation in the Diagnosis of Surgical Diseases of the Abdomen.**

DR. BARTON McSWAIN, Paris.

To Discuss:

DR. J. L. McGEHEE, Memphis.
DR. W. D. HAGGARD, Nashville.**15. Post Menopausal Bleeding.**

DR. W. C. DIXON, Nashville.

To Discuss:

DR. P. C. SCHREIER, Memphis.
DR. E. DUNBAR NEWELL, Chattanooga.**16. Combined Abdomino Perineal Resection of the Rectum (a sound movie in color).**

DR. FRED RANKIN, Lexington, Kentucky.

Wednesday, April 12, 1939**2:00 P.M.****17. Feeding Problems in Infancy.**

DR. WILLIS H. THOMPSON, Instructor for Post-graduate Course in Pediatrics.

To Discuss:

DR. JOHN M. LEE, Nashville.
DR. OLIVER HILL, Knoxville.**THIS PORTION OF THE PROGRAM ARRANGED IN COOPERATION WITH THE SECTION ON RAILWAY SURGERY****18. The Relationship Which Should Exist Between Industrial Physicians and Surgeons and Private Practitioners.**

DR. C. F. N. SCHRAM, Kingsport.

To Discuss:

DR. A. R. McMAHAN, Memphis.
DR. H. M. TIGERT, Nashville.**19. The Management of Fractures About the Elbow Joint.**

DR. TROY BAGWELL, Knoxville.

To Discuss:

DR. A. H. MEYER, Memphis.
DR. JOHN H. TILLEY, Lawrenceburg.

20. **The Restoration of Function After Injury, with Special Reference to Extremities.**
DR. DUNCAN EVE, JR., Nashville.

To Discuss:

DR. HERSCHEL PENN, Knoxville.
DR. WM. J. SHERIDAN, Chattanooga.

21. **The Operative Correction of Lower Extremity Length Inequality (a special address).**
DR. C. H. CREGO, JR., St. Louis, Missouri.
22. **Management of Common Eye Conditions in the Field of the General Practitioner.**
DR. EDGAR L. GRUBB, Knoxville.

To Discuss:

DR. S. H. LONG, Chattanooga.
DR. ROBERT E. SULLIVAN, Nashville.

Thursday, April 13, 1939

9:30 A.M.

23. **Manifestations of Allergy, Other Than Asthma.**
DR. ALFRED M. GOLTMAN, Memphis.

To Discuss:

DR. J. P. HENRY, Memphis.
DR. C. S. THOMAS, Nashville.

24. **Raw Diets.**
DR. J. W. McELROY, Memphis.

To Discuss:

DR. H. B. GOTTEN, Memphis.
DR. JOHN B. YOUNG, Nashville.

25. **The Small Town Clinic-Hospital—Its Place in the Community.**
DR. W. G. RHEA, Paris.

To Discuss:

DR. J. W. OURSLER, Humboldt.
DR. L. W. NABERS, Morristown.

26. **Breast Cancer (Technique of Examination and Pre-operative Radiation).**
DR. LEON J. MENVILLE, New Orleans, La.

27. **Sulfanilamide Pyridine in the Treatment of Pneumonia.**
DR. ROBERT WILLIAMS, Nashville.

To Discuss:

DR. C. H. SANFORD, Memphis.
DR. O. N. BRYAN, Nashville.

Thursday, April 13, 1939

2:00 P.M.

28. **The Necessity for Medical Military Preparedness.**
G. W. REYER, Lt. Col., M. C., U. S. Army.
Professor of Military Science and Tactics,
Vanderbilt University, Nashville.

To Discuss:

DR. HUGH R. RAINES, Memphis.
DR. J. B. HIBBITTS, JR., Nashville.

29. **A Study of Infant Mortality in Tennessee.**
DR. JOHN M. SAUNDERS, and RUTH R. PUFFER, Tennessee Department of Public Health, Nashville.

To Discuss:

DR. A. G. QUINN, Memphis.
DR. J. C. OVERALL, Nashville.

30. **Asthma and the General Practitioner.**
DR. TOLBERT C. CROWELL, Chattanooga.

To Discuss:

DR. W. C. CHANEY, Memphis.
DR. GLENN D. GRUBB, Knoxville.

31. **Puerperal Sepsis.**
DR. WM. I. HOWELL, Lexington.

To Discuss:

DR. E. R. ZEMP, Knoxville.
DR. P. B. RUSSELL, Memphis.

TENNESSEE STATE PEDIATRIC SOCIETY

President, DR. WM. VAN ORDER, Chattanooga
Vice-President, DR. JAMES C. OVERALL, Nashville
Secretary-Treasurer, DR. KINSEY M. BUCK, Memphis

NEW SOUTHERN HOTEL

April 11, 1939

9:00 A.M.

President's Address.

DR. WM. E. VAN ORDER, Chattanooga.

9:30 A.M.

Bronchial Stenosis from Tubercular Glands, Case Report.

DR. JAMES G. HUGHES, Memphis.

9:50 A.M.

Purpura Hemorrhagica.

DR. JOE M. STRAYHORN, Nashville.

10:10 A.M.

Progeria, Case Report.

DR. DAVID GOLTMAN, Memphis.

10:30 A.M.

Combined Administration of Tetanus Toxoid and Diphtheria Toxoid.

DR. O. L. VON CANON, Chattanooga.

10:50 A.M.

Clinical Experience with Sulfapyridine.

DR. J. CYRIL PETERSON, Nashville.

11:15 A.M.

Acute Intussusception in Infants.

DR. PHILIP C. ELLIOTT, Nashville.

Intermission

12:15 P.M.

Luncheon—New Southern Hotel. Round table discussion and questions about morning papers.

1:00 P.M.

Business Meeting.

2:00 P.M.

Society will adjourn to attend the scientific session of the Tennessee State Medical Association.

THE TENNESSEE ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

COUNTRY CLUB

Tuesday, April 11, 1939

9:00 A.M.

1. What Tennessee Is Doing for the Prevention of Blindness, Conservation of Vision and Restoration of Sight.
DR. HALE E. CULLOM, Nashville.
2. Foundation Lecture in Otolaryngology: Points of Practical Interest in the Diagnosis, Time of Operation and Treatment, in Acute and Chronic Ear Conditions, Including Mastoid, Lateral Sinus, Labyrinth, Meningeal, and Petrous Infection.
DR. HENRY M. GOODYEAR, Cincinnati, Ohio.
3. Round-Table Discussion.
4. Presentation of Pathological Specimens and New Instruments.

PRESIDENT'S LUNCHEON

Guests of the president, Dr. J. B. Stanford, Memphis.

5. Use of Ingals' Gold Tube in Frontal Sinus Operations.
DR. D. HARBERT ANTHONY, Memphis.
6. Foundation Lecture in Ophthalmology: Disturbances of Motility and of Visual Fields.
DR. VIRGIL G. CASTEN, Boston, Massachusetts.
7. Round-Table Discussion.
8. Executive Session with Election of Officers.

DINNER

Guests of Jackson Society of Ophthalmology and Otolaryngology.

1. President's Message.
2. Installation of Officers.

DEATHS

DR. G. G. MULHERIN

Dr. G. G. Mulherin, Brownsville; aged sixty-one; died January 9 following an illness of one week.

DR. W. F. HUNTSMAN

Dr. W. F. Huntsman, Lexington; University of Tennessee, College of Medicine, Memphis, 1900; aged seventy; died December 22, 1938.

DR. L. D. ALLEN

Dr. L. D. Allen, Smithville; University of Nashville, Medical Department, 1898; aged sixty-seven; died March 5.

DR. C. P. FOX

Dr. C. P. Fox, Greeneville; New York University, Medical College, New York, 1888; aged seventy-three; died March 7.

RESOLUTIONS

DR. G. P. HICKS

On November 23, 1938, the Carroll County Medical Society lost one of its most eminent members in the death of Dr. Garvyn Priestly Hicks of Bruceton, Tennessee.

Dr. Hicks was born June 3, 1880, at Westport, Tennessee. While attending Southern Normal University, 1899-1900, Huntingdon, Tennessee, he spent his summers in the office of Dr. Joe McCall. In June, 1905, he received his medical degree from the University of Nashville, Medical Department.

In November, 1905, he married Miss Grace Paschall, of Henry County, who contributed much to his personal happiness, his private life, and his professional success.

After graduation he located in Camden, Tennessee, and there practiced medicine for nine years. For four years of this period he was railroad physician and county health officer of Benton County. This gave him great opportunity which he faithfully utilized for serving the people of a whole county. He then went to Paris, Tennessee, and there and in Henry County practiced medicine for six years. The last thirteen years he spent in his native Carroll County at Bruceton, where he had a wide practice in town and country. Here he served the sick and the suffering until on July 24 he was stricken with a heart attack. After resting at home a few weeks he went to Florida, hoping entirely to recover and again resume his service of the people. But on November 23, in Lake Worth, Florida, he succumbed to a heart attack. As was said of the Master so of him, "He saved others, himself he could not save."

Dr. Hicks in private life was loved and honored by all. In public affairs he was alert to the welfare of the community and

always took a leading part in all advance movements for better health conditions.

Dr. Hicks was a member of the Carroll County Medical Society, of the Tennessee State Medical Association, and of the Southern Medical Association.

In recognition of his faithful and distinguished services in the practice of medicine, of his personal worth as a man and a citizen, and of the noble services he rendered the communities where he lived and practiced medicine, the Carroll County Medical Society in regular monthly meeting assembled desires to offer the following resolutions:

"Be It Resolved, The Carroll County Medical Society deeply deplores the early and sudden passing of our member just as he was approaching the climax of a distinguished career.

"Be It Further Resolved, That the society extends to his wife and daughters and other family connections our sympathy and condolence; and

"Be It Further Resolved, That a copy of this resolution be sent to his wife, a copy be sent to the secretary and editor of the TENNESSEE STATE MEDICAL JOURNAL, and a copy be spread on the records of this society.

(Signed) L. E. TREVATHAN, M.D.
ROY A. DOUGLAS, M.D.
V. E. MASSEY, M.D.

NEWS NOTES AND COMMENTS

The postgraduate course in pediatrics, sponsored by the Tennessee State Medical Association, was inaugurated February 20 most auspiciously. The first circuit included courses at Covington, Brownsville, Jackson, Selmer, and Bolivar with a total enrollment of eighty-three doctors for the circuit. Dr. Willis H. Thompson, who is conducting this work, will meet with the doctors enrolled at each of the above centers once each week for ten weeks and will then move on to a new circuit. In this manner it is expected to offer this course in circuits arranged to cover the state.

The number enrolled and the interest and enthusiasm shown by them in this course is most encouraging, and it appears that the medical profession of the state is very fortunate to secure such an opportunity of reviewing the subject of pediatrics with so able a clinician as Dr. Thompson. We are especially fortunate in securing Dr. Thompson's services for this program. In addition to a wide clinical experience he has devoted much time to teaching both undergraduate and graduate students at the University of Minnesota, and has carried on considerable research in pediatric problems.

During the spring of this year the Fourth International Congress of organizations and scientists interested in comparative pathology will be held in Rome under the auspices of the Royal Italian government. More detailed information regarding this congress, including its program, is being formulated for distribution and I will be glad to furnish a copy of the same to those who are interested.

The Italian government extends an invitation to all doctors and other scientists interested in human, veterinarian, and plant pathology to attend this congress.

(Signed) JOHN GALELLA,
Royal Consular Agent of Italy.
Sterick Building, Memphis, Tennessee.

United States Department of Labor, Children's Bureau, Washington, has asked that we announce the Annual Child Health Day which will be observed Monday, May 1.

Those interested in obtaining additional information on this subject may write to May Day Chairman, State Department of Health.

ANNOUNCEMENT OF VAN METER PRIZE AWARD

The American Association for the Study of Goiter again offers the Van Meter Prize Award of \$300 and two honorable men-

tions for the best essays submitted concerning original work on problems related to the thyroid gland. The award will be made at the annual meeting of the association which will be held in Cincinnati, Ohio, on May 22, 23, and 24, 1939, providing essays of sufficient merit are presented in competition.

The competing essays may cover either clinical or research investigations; should not exceed 3,000 words in length; must be presented in English; and a typewritten double spaced copy sent to the corresponding secretary, Dr. W. Blair Mosser, 133 Biddle Street, Kane, Pennsylvania, not later than April 15, 1939.

The American Physicians' Art Association, composed of members in the United States, Canada, and Hawaii, will hold its second art exhibit in the City Art Museum of St. Louis, May 14-20, 1939, during the annual session of the American Medical Association. Art pieces will be accepted for this art show in the following classifications: (1) oils both (a) portrait and (b) landscape; (2) water colors; (3) sculpture; (4) photographic art; (5) etchings; (6) ceramics; (7) pastels; (8) charcoal drawings; (9) bookbinding; (10) wood carving; (11) metalwork (jewelry). Practically all pieces sent in will be accepted. There will be over sixty valuable prize awards. For details of membership in this association and rules of the exhibit, kindly write to Max Thorek, M.D., Secretary, 850 Irving Park Boulevard, Chicago, Illinois, or F. H. Redewill, M.D., President, 521-536 Flood Building, San Francisco, California.

The American Association of Obstetricians, Gynecologists, and Abdominal Surgeons announces that the annual foundation prize for this year will be \$100. Those eligible include only (1) interns, residents, or graduate students in obstetrics, gynecology, and abdominal surgery and (2) physicians (M.D. degree) who are actually practicing or teaching obstetrics, gynecology, or abdominal surgery.

Competing manuscripts must (1) be presented in triplicate under a nomdeplume to

the secretary of the association before June 1, (2) be limited to 5,000 words and such illustrations as are necessary for a clear exposition of the thesis, and (3) by typewritten (double spaced) on one side of the sheets with ample margin.

The successful thesis must be presented at the next annual (September) meeting of the association without expense to the association and in conformity with its regulations.

For further details, address Dr. James R. Bloss, Secretary, 418 Eleventh Street, Huntington, West Virginia.

WOMAN'S AUXILIARY

President.....Mrs. H. E. Christenberry
Knoxville
President-Elect.....Mrs. Matt. Murfree
Murfreesboro
Press and Publicity.....Mrs. Frank Fessey
Nashville

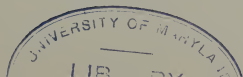
DAVIDSON COUNTY

On February 3 the twelfth anniversary of the Woman's Auxiliary to the Nashville Academy of Medicine and Davidson County Medical Society was celebrated at Centennial Club.

Assisting the president, Mrs. Joseph Travenick, Jr., in receiving the seventy-five guests were Mrs. Hearn Bradley, Mrs. B. F. Byrd, Mrs. T. G. Pollard, Mrs. Lynch Bennett, Mrs. Elkin Rippey, and Mrs. George Holcomb. Mrs. Carl McMurray was general chairman of the affair and served as toastmistress.

Honor guests attending were Dr. R. W. Billington, president of the Nashville Academy of Medicine, and Mrs. Billington, Dr. W. W. Wilkerson and Dr. B. F. Byrd, members of the Advisory Council to the Auxiliary.

Mrs. T. G. Pollard has as her guest Mrs. C. S. Red, of Houston, Texas. Mrs. Red is one of the most outstanding women in the ranks of the Woman's Auxiliary. She is the founder and organizer of the Woman's Auxiliary to the American Medical Association and served as its national president for three years. She also served as



both state and county president of the Texas auxiliaries. Mrs. Red is also the author of a book, "Medical Men in Texas," which is used as a reference book in many of our medical college libraries as well as in some of the foreign countries. Mrs. Red was the honor guest at the monthly meeting of the Nashville Academy of Medicine and the Davidson County Medical Society. Also present to share honors with her was Mrs. H. E. Christenberry, our own state president, and our president-elect, Mrs. Matt Murfree, of Murfreesboro. Many charming affairs have been arranged in her honor during her only too short stay in Nashville, one of which was a dinner in her honor at Centennial Club, given by Mrs. Rogers N. Herbert, our own past national president.

The Woman's Auxiliary to the Tennessee State Medical Association will hold its twelfth annual convention at Jackson, Tennessee, April 11 and 12, 1939. If you have not sent in your report please do so before March 20.

LINCOLN COUNTY

We are indeed happy to announce the organization of the Lincoln County Woman's Auxiliary. Much appreciation is due Mrs. R. T. Odum for her untiring efforts toward the organization of this new auxiliary. The following officers and committees were elected and appointed: Mrs. Robert T. Odum, president; Mrs. R. E. McCown, vice-president; Mrs. W. S. Joplin, secretary; Mrs. Garland Hayes, treasurer. Program: Mrs. A. L. Griffith, Mrs. W. T. Cannon, Mrs. J. F. Shelton. Public Relations, Health, and Hygiene: Mrs. W. C. Woodfin, Mrs. K. P. Brown. Legislation: Mrs. Lillian Goodwin and Mrs. E. K. Blair. Cancer Control: Mrs. R. E. McCown. Historian: Mrs. T. A. Patrick. Lincoln County medical adviser: Dr. W. S. Joplin. Publicity: Mrs. C. L. Goodrich. Meetings will be held on the first Wednesday in each month and the March meeting will be with Mrs. K. P. Brown. The guests were Mrs. M. B. Murfree, of Murfreesboro, president-elect of the State Auxiliary and chairman of organization, and Mrs. James Scott, also of Murfreesboro, Middle Tennessee chair-

man of organization, and the wives and widows of the doctors of Lincoln County.

RUTHERFORD COUNTY

At the monthly meeting of the Woman's Auxiliary to the Stones River Academy of Medicine, it was voted to cooperate with the movement of the Tennessee Medical Society to extend the requirements of tests for syphilis for handlers of food in public eating establishments to domestic servants. It was also voted to aid the American Legion in its efforts to secure more rigid enforcement of the state laws regarding social diseases and to secure the passage of the law requiring tests for persons applying for marriage licenses.

Mrs. M. B. McCrary, of Woodbury, president, appointed Mrs. J. F. Adams, of Woodbury, delegate to the state convention of the Medical Auxiliary which will meet in Jackson, April 11-13.

Mrs. McCrary also appointed Mrs. Adams as chairman of the Cancer Control Drive.

MEDICAL SOCIETIES

Davidson County:

February 7—"Surgical Treatment of Gall Bladder Disease," by Dr. Gordon Heyd, New York City.

February 14—"Consideration of Uterine Prolapse and Related Conditions," by Dr. James C. Mason, Rochester, Minnesota.

February 21—"Chronic Arthritis," by Dr. Albert Weinstein. Discussed by Dr. Eugene M. Regen.

"Neuritis," by Dr. W. DeGutierrez Mahoney. Discussed by Dr. J. P. Gilbert.

February 28—"Osteomyelitis of the Vault of the Skull," by Dr. T. D. McKinney. Discussed by Dr. Cobb Pilcher.

March 7—"Appendicitis in the Infant," by Dr. Lynch Bennett. To be discussed by Drs. Lee and Overall.

March 14—"Intussusception in the Adult," by Dr. Cleo Miller. "Intussusception in the Infant," by Dr. P. C. Elliot. To be discussed by Dr. Thomas G. Pollard.

Papers scheduled to be read are as follows:

March 21—"Results of Experience with Actinomycotic Infections in the University of Michigan Hospital for the Past Ten Years with Special Bearing on Its Etiology," by Dr. Jeff Davis. To be discussed by Dr. C. M. Hamilton.

March 28—"Extrophy of the Bladder," by Dr. Henry Douglas. To be discussed by Dr. J. C. Pennington.

"Results of Fever Therapy at Vanderbilt University Hospital," by Dr. Robert Williams. To be discussed by Dr. E. M. Regen.

April 4—"Post-partum Infection," by Dr. Sam Cowan. To be discussed by Dr. W. B. Anderson.

April 11—No meeting on account of Tennessee State Medical Association at Jackson, Tennessee.

Dyer, Lake, and Crockett Counties:

The Dyer, Lake, and Crockett Counties Medical Society met in regular monthly session, March 1, 1939. Scientific program:

"Henoch's Purpura," by Dr. E. B. Smythe, Tiptonville.

"Medical Management of Common Diseases of the Colon," by Dr. H. G. Rudner, Memphis.

"Surgical Management of Common Diseases of the Colon," by Dr. R. L. Sanders, Memphis.

(Signed) C. L. DENTON, *Secretary*.

Greene County:

The Greene County Medical Society met Tuesday, February 7, at the Andrew Johnson Clubhouse.

Dr. I. E. Phillips read a paper on "Brains and Eggs." Dr. W. T. Mathes discussed it.

Dr. H. B. Anderson read a paper on "Anemia." Dr. L. E. Dyer discussed it.

The following members were present: Drs. J. T. Campbell, L. E. Coolidge, W. T. Mathes, C. B. Laughlin, R. S. Cowles, H. W. Fox, M. A. Blanton, R. B. Gibson, Hal Henard, I. E. Phillips, L. E. Dyer, and H. B. Anderson. Visitor: Dr. A. Hardison from the State Health Department.

(Signed) I. E. PHILLIPS, *Secretary*.

Greene County:

The Greene County Medical Society met on March 7.

Dr. L. E. Dyer presented a paper on "Obstetrics versus Midwifery."

The following members were present: Drs. M. A. Blanton, R. B. Gibson, R. S. Cowles, Hal Henard, L. E. Dyer, N. H. Crews, and I. E. Phillips.

(Signed) I. E. PHILLIPS, *Secretary*.

Hardin, Lawrence, Lewis, Perry, and Wayne Counties:

A meeting of the Five-County Medical Society was held in Hohenwald on February 28 with a good attendance.

Papers read were "Present Management of Obstetrics," by Dr. Watt Yeiser, Columbia.

"Some of the Less Common Manifestations of Coronary Thrombosis," by Dr. David Strayhorn, Nashville.

The next meeting will be held in Linden on March 28.

Knox County:

February 7—"The Treatment of Diabetes Mellitus," by Dr. Bruce R. Powers. Discussed by Drs. G. G. Henson, Philip Thomas, and R. M. Young.

February 14—"A Moving Picture on the Heart," presented by Dr. Eugene Abercrombie.

February 21—"Anorectal Fistulas and Abscesses," by Dr. J. M. Stockman.

February 28—"The Law Relating to Doctor and Patient," by Karl Ed. Steinmetz, instructor in law at the University of Tennessee.

March 7—"Prostatic Resection with Art Sketches of Operation Before, at Time, and After Operation," by Dr. J. B. Neil. Discussion led by Dr. G. A. Williamson.

Shelby County:

February 21—"Case Reports: Dermoid Cyst of the Abdominal Wall," by Dr. J. C. Mobley, Jr. "Status Epilepticus," by Dr. J. C. Ayres, Jr.

Papers: "An Appraisal of the More Recent Treatment of Diabetes Mellitus," by

Dr. H. B. Gotten. Discussed by Drs. C. H. Sanford and W. C. Colbert.

"The Carotid Sinus Syndrome," by Dr. Francis Murphey. Discussed by Drs. L. C. Sanders and H. G. Rudner.

March 7—"Case Reports: Ocular Tularemia," by Dr. D. H. Anthony. "Cancer of Rectum," by Dr. M. W. Holehan.

Papers: "Accidents of Pregnancy," by Dr. W. A. Ruch. Discussed by Drs. J. P. Long and J. R. Reinberger.

"Management of Tumors of the Bladder," by Dr. T. D. Moore. Discussed by Drs. H. K. Turley and C. H. Heacock.

Sullivan-Johnson County:

We had a very interesting Sullivan-Johnson County medical meeting last night with twenty-six present. Dr. B. R. Howard presented a case of tumor of the hilum of the left lung in a man twenty-three years of age. The man said he had been perfectly well up until one week ago with the exception that he had noted for the past three months that he was uncomfortable in attempting to sleep on his left side. X-ray pictures taken in April, 1937, in pre-employment examinations were read as negative, but on seeing films taken on Monday of this week it was evident that there was a beginning process there two years ago, so faint in outline in the X-ray, however, that the element of time was necessary to give a positive reading.

Following the discussion of this, a case from the Massachusetts General Hospital was discussed very thoroughly. Copies of the history and findings had been sent to every member a week in advance, and every one had had a chance to study it. Before the discussion the various diagnoses were placed upon the blackboard.

The correspondence regarding the post-graduate courses at Vanderbilt University was read and well received.

The writer was elected delegate to the state meeting in Jackson, with Dr. T. B. Yancey as alternate.

(Signed) C. F. N. SCHRAM, M.D.,

Secretary.

Williamson County:

At the regular meeting of the Williamson County Medical Society on Tuesday, February 14, Dr. E. F. Harrison presented a paper, "Tuberculosis, the Nature of the Disease." Dr. W. J. Murphy, of Franklin, was elected to membership in the society.

(Signed) K. S. HOWLETT, *Secretary.*

OTHER MEDICAL SOCIETIES

PAPERS PRESENTED AT VANDERBILT MEDICAL SOCIETY, JANUARY 6, 1939

1. Case Report: "Acute Hemorrhagic Encephalitis Due to Neoarsphenamine," by Dr. H. F. Klinefelter.

A twenty-four-year-old, five months pregnant, white woman was admitted to hospital in coma four and one-half days after intravenous injection of 0.3 grams neoarsphenamine. For the preceding three days she suffered general malaise, headache, nausea and vomiting and drowsiness; two days before had severe chill; twelve hours before admission became comatose with generalized convulsions. On admission T. 100.8, P. 88, R. 32. She responded only to painful stimuli and respirations were labored, irregular. She was quite flaccid until an extremity was passively moved, when she became rigid all over for several minutes. There was no paralysis. Deep reflexes were equal, hyperactive; Babinski and Hoffman signs bilaterally positive. There was a transient left internal strabismus. There was a definite leukocytosis; slight anemia. C.S.F. was xanthochromic, under slightly increased pressure, with high protein; 40 to 130 white cells were present; Wassermann negative; temperature and pulse rose and day after admission she had a generalized convulsion. She developed bronchopneumonia, but seemed to improve for a time, although she never regained consciousness. She died suddenly of respiratory failure eight days after the injection. At necropsy there were numerous small areas of hemorrhage throughout brain, most marked in pons. Lesion consisted of necrosis of vessel wall, with thrombus formation, and with perivascular edema, ne-

crosis, and hemorrhage. There was no evidence of infection.

This paper was discussed by Drs. R. H. Kampmeier and Hugh J. Morgan.

2. "Studies on Experimental Hypertension in the Rat," by Drs. J. T. Diaz and Sanford E. Levy.

Hypertension in albino rats was produced by subtotal nephrectomy. The weights of the ovaries and thyroids of these hypertensive rats were smaller than the corresponding weights of normal rats. The weights of the pituitaries were not changed. The adrenals increased in weight by a small but significant amount. The weights of the kidneys and hearts were increased markedly. Histological sections showed nothing definite in the heart, thyroids or pituitaries. The ovaries showed slight atrophy. The adrenals showed some hyperplasia and vacuolization in the medulla. The kidney showed lesions similar to chronic glomerulonephritis. Vaginal smears showed disturbed ovarian cycle.

Hypertensive albino rats were adrenalectomized. Blood pressure came down to about normal level after adrenalectomy. No weight changes were noticed in the endocrine glands of adrenalectomized as compared with hypertensive rats. The weights of the hearts and kidneys were reduced after adrenalectomy. Histological sections of endocrine glands of adrenalectomized rats showed same histological picture when compared with sections of hypertensive rats. The kidneys showed old glomerulonephritis and focal tubular damage.

An indirect method for taking repeated blood pressure determinations in rats, by compressing the tail, was briefly described.

This paper was presented by Dr. Diaz and was discussed by Drs. Alfred Blalock and John C. Burch.

3. "Observations on the Histology of the Human Endometrium," by Dr. Rucker Cleveland.

The normal cyclic changes in the uterus were described and the histology of nuclear structure during the various phases of the cycle discussed. The chromatin was either granular or solidly homogeneous; the granules were either aggregated or diffusely dis-

tributed. Correlation of the nuclear structure in normal endometrium and in endometrium secured from patients having first and second degree ovarian failure showed that aggregated granular chromatin in the nuclei of second degree failure tissues predominated over the intermediate and fine, and that first degree failure tissues contained more of the coarse chromatin than the normal tissues, but not as much as the second degree tissues.

This paper was discussed by Dr. John C. Burch.

PAPERS PRESENTED AT VANDERBILT MEDICAL SOCIETY, FEBRUARY 3, 1939

1. "A Case of Lipoid Pneumonia," by Dr. Delmar Gard.

A five-months-old infant was admitted to the hospital because she failed to gain. She had been offered various formulæ, took them poorly, and vomited frequently. The mother had given her mineral oil for constipation which caused her to strangle. On admission she weighed less than at birth. From history and clinical course we suspected lipoid pneumonia. X-ray showed a diffuse bilateral pneumonia. The tuberculin test was negative. In an oxygen tent, and with supportive treatment, she failed to respond and expired in four weeks. The post-mortem examination revealed a diffuse interstitial pneumonia with a large amount of oil present.

The case was discussed by Drs. Herbert Francis and E. H. Tompkins.

2. "The Blood Volume of the Fetal and Maternal Circulation in Sheep," by Dr. J. Allen Kennedy.

Blood volumes were determined with a dye injection method using a blue azo dye, T-1824, a photoelectric cell colorimeter and an appropriate light filter. The blood volume of five pregnant sheep was measured at intervals throughout pregnancy. These animals were controlled by three nonpregnant sheep on which the same determinations were made over the same period of time. The blood volume of the fetal circulation was studied by a series of separate determinations in thirty-five fetal sheep at various ages in embryonic life. Data from

these studies were presented and briefly discussed.

This paper was discussed by Drs. Newton Underwood, Morton Mason, Eugene Ellison, and Hugh J. Morgan.

3. "Influence of Estrogen upon Pituitary Grafts," by Drs. Doris Phelps, Eugene Ellison, and John C. Burch.

The influence of estrogen upon the survival, structure, and function of pituitary grafts was investigated. In forty-six experiments, in which intact pituitaries from mature male or female rats were grafted into the thigh muscles of totally or partially hypophysectomized mature female rats, it was found that estrogen exerted a decidedly favorable influence upon the survival of the grafts. Grafts from female donors survived better than did those from male donors, regardless of the treatment of the hosts. All three lobes were present in surviving grafts. The anterior lobe was observed to undergo partial degeneration followed by regeneration; these changes were not dependent upon the presence of injected estrogen. Grafts from injected hosts showed the structural features which are characteristic of the pituitary response to estrogen. The ovaries of the hypophysectomized rats with surviving grafts showed evidence of mild stimulation, but there was no evidence that ovulation occurred or that corpora lutea were formed in these animals. In the injected rats of this group, the corpora lutea present at time of operation underwent regression within ten days after the implantation of the grafts. There was evidence of mild follicle growth in the ovaries of the rats (of this group) injected for twelve to eighteen days. The length of time during which histologically normal corpora lutea were maintained in the ovaries of partially hypophysectomized, injected rats were roughly proportional to the amount of pituitary tissue present and did not exceed twenty-five days in any case.

This paper was presented by Dr. Phelps and was discussed by Drs. Sam Clark and John C. Burch.

ABSTRACTS OF CURRENT LITERATURE

ANESTHESIA

By HUGH BARR, M.D.
Medical Arts Building, Nashville

Choice of Anesthesia for Surgery of the Upper Abdomen. L. F. Sise, M.D. The American Journal of Surgery, April, 1938.

The surgical mortality and morbidity following upper abdominal operations are comparatively high. It is, therefore, important to bear this point constantly in mind in considering the various kinds of anesthesia which may be used in this region. In each case the agent and method should be selected which are best adapted to the particular conditions. In most instances spinal anesthesia with pontocaine or nupercaine is most satisfactory. It is absolutely essential that an anesthetist well skilled in the administration and management of this form of anesthesia be available.

If for some reasons spinal anesthesia cannot be given one of the various combinations of anesthetic, usually having gas-ether, given by the intratracheal route, as its principal constituent, is very satisfactory. Ether is a great value due to its immediate safety and relaxation. Regional anesthesia is usually unsatisfactory because of its limited field, but may be the best possible choice for patients in poor conditions. The gases used alone are too weak to be at all satisfactory. Of the gases cyclopropane is much the best.

DERMATOLOGY

By E. E. BROWN, M.D.
Doctors Building, Nashville

Uveoparotitis: A Sarcoid Reaction. Henry E. Michelson, M.D., with the collaboration of Frederic T. Becker, M.D., Duluth, Minnesota. Archives of Dermatology and Syphilology, February, 1939.

The first case of typical uveoparotitis was recorded in 1899 by Daireaux and Pechin. This occurred in a man twenty-two years old. There was bilateral parotid swelling with iritis, and later paralysis of the facial nerve.

To the present time about seventy cases have been reported. It consists of inflammation of the parotid glands and iritis, with usually a third complication. The onset is not constant and there may be symptoms of the grip. The swelling begins in the preauricular area, with marked uneven nodular induration. There is little discomfort or pain on palpation. The inflammation is apparently well confined within the bland capsule. The overlying skin is not adherent to the mass. Mastication is not interfered with except by dryness of the mouth.

The other salivary glands are often involved.

The cervical, supraclavicular nodes and even the hilar lymph nodes are occasionally affected.

The ocular symptoms are practically always bilateral. The patient may complain of burning of the eyes, slight photophobia and misting or blurred vision. Iridocyclitis is the most common ophthalmic symptom.

Paralysis of the facial nerve is the most common neurologic complication. Cutaneous eruptions do sometimes occur and resembles erythema nodosum. No definite etiologic factor has been proven.

The assumption of a tuberculous cause is reasonably based upon pathological study of the gland; however, the tuberculous test is usually negative.

The authors report two cases. They are of the opinion that uveoparotitis and sarcoidosis have many points in common. One of their patients was treated with roentgen rays and he recovered completely, while the second patient was given gold sodium thiosulphate at weekly intervals for two months and experienced rather pronounced diminution in the swelling of the parotid glands.

The paper was discussed by Drs. Osborne, Wise, McCarthy, Finnerud, and Weidman.

OBSTETRICS AND GYNECOLOGY

By HAMILTON V. GAYDEN, M.D.
Suite 234 Doctors Building, Nashville

A Critical Analysis of Blood Loss Following Delivery.
A. M. Reich. American Journal of Obstetrics and Gynecology, Vol. 37, 224, February, 1939.

Excessive blood loss during and after the third stage of labor could be appropriately termed, because of its serious consequences, "Obstetrics Enemy Number One," for no other accident or complication has such potential dangers or is encountered so frequently. The following statements were made by the author following a survey of 1,290 consecutive cases delivered at Bellevue Hospital.

Hemorrhages from lacerations in the parturient canal are often undiagnosed. The incidence and the amounts lost may be high. Greater consideration should be given to the conduct and management of the third stage. Post-partum hemorrhage from the normally situated placental site due to imperfect contraction of the uterus is the chief theoretical indication for an oxytocic. Hemorrhages of this origin are responsible for about seventy per cent of the cases of excessive blood loss incidental to delivery. In a series of 588 patients treated by the administration of ergotrate after the delivery of the placenta, the incidence of a blood loss of 500 cubic centimeters or over was 7.1 per cent as compared with an incidence of 16.1 per cent in 548 cases in which ergotamine tartrate was given instead. When only the blood loss after the third stage is considered, the incidence

was 1.5 per cent in the ergotrate series and 11.3 per cent in the control series.

Clinical observations indicate that a profound tetanic contraction of the uterus with immediate separation of the placenta if it is still within the uterus occurs within forty-five seconds of the intravenous administration of ergotrate. The use of the drug in 2,500 cases has been accompanied by no systemic reactions. The only complication that has been observed is the occasional retention of the placenta within a tightly contracted uterus when the drug is given at the beginning of the third stage. Ergotrate is superior to other oxytocics in the speed, completeness, and duration of its action and has a definite place in the prophylaxis and control of hemorrhage from the normally situated placental site.

OPHTHALMOLOGY

By ROBERT J. WARNER, M.D.
Doctors Building, Nashville

Changes in the Fundus Oculi in Diabetic Patients. E. Heinsius. Archives of Ophthalmology, February, 1939.

Heinsius reports on the examination of the fundus of 221 diabetic patients in an exhaustive publication containing much noteworthy detail. Typical retinitis diabetica was found in forty-five of the patients. For 102 exact data were obtained and recorded regarding the duration and severity of the disease, insulinization, content and fluctuation of the blood sugar, hypoglycemic conditions, and blood pressure. Records of previous ophthalmoscopic examinations were available for five patients. Of these 102 patients twenty-two presented diabetic retinitis; in sixteen it was complicated with arteriosclerotic changes and in one patient with atrophy of the optic nerve. The blood sugar rate varied between 150 and 350 milligrams per hundred cubic centimeters, and hypoglycemic conditions or diatheses seemed to have no bearing on the development of diabetic retinitis. The blood pressure was slightly increased in more than fifty per cent of the patients, and hypertonic signs were absent in the fundus. Arteriosclerosis may be a contributory, but not an essential, factor in bringing about diabetic changes in the retina. The condition was considered hypertonic only in those cases in which there were present Gunn's phenomenon, the typical appearance of the retinal vessels and general hypertonia.

Several illustrative tables are included in the report. Some records showed that diabetic changes in the fundus may disappear completely so that negative findings do not signify that previous changes existed. Women showed changes of the fundus twice as often as men. Diabetic hemorrhages in the retina were the exception in patients less than fifty years of age. The author expressed

surprise that white spots without hemorrhages were found in the retina with one exception only in women under fifty years of age who had a blood pressure of less than 140 millimeters of mercury. The patients' general physical condition may have been the cause of this. In the pathogenesis of diabetic retinitis, arteriosclerosis and hypoglycemic conditions have no part; it is most likely that the constellation of several factors is instrumental in producing this condition.

PEDIATRICS

By JOHN M. LEE, M.D.
Doctors Building, Nashville

Congenital Tuberculosis. Report of a Case. Chas. E. Conrad, M.D. Southern Medical Journal, 32: 169 (February), 1939.

Congenital tuberculosis may be acquired by extension of the infection through the umbilical vein from a tubercle in the placenta. Such infection is initiated by tearing of the tubercle during separation of the placenta. Due to the peculiarity of the fetal circulation the liver is the first large receptor of maternal blood and becomes the site of primary lodgment of infection in these cases. Where infection is acquired in this manner the more advanced lesions are found in the liver and the regional lymph nodes, though other areas may be involved.

Another mode of acquiring congenital tuberculosis is ingestion or inhalation of tuberculosis amniotic fluid or tuberculous material in the birth canal. In cases so infected, the point of primary lodgment would be in the lungs or intestinal tract, and these organs show the greater and the more advanced lesions.

Formerly it was believed that intra-uterine infection with the tubercle bacillus occurred only when the mother had the disease in an advanced stage. Recent studies have shown that such infection may occur when the mother's disease is not far advanced, latent or even quiescent. However, it would appear that a tuberculous bacillæmia is more likely to occur with a heavy infection of the lungs.

Schmorl and Birch-Hirschfeld reported the first authentic human case of congenital tuberculosis in 1891. The author's extensive review of the literature reveals that many undoubted cases have since been reported. In 1935 Beitzke reviewed 100 cases of congenital tuberculosis which had been reported. Of these he passed sixty-one as true congenital tuberculosis showing lesions in the organs.

In a study by Siegel of thirty-eight reported cases it was found that the lungs were most frequently involved and the degree of pulmonary involvement was equal to or greater than that of the liver. In cases dying in the latter half of the first month of life the lungs and regional lymph nodes were usually alone involved. Liver involve-

ment was most marked in cases dying in the first two weeks of life. No undoubted cases of intestinal tuberculosis was reported in infants dying before thirty-nine days of age.

The author reports a case of an infant dying forty-six days after birth, the autopsy showing miliary tuberculosis of lungs, liver, and spleen. The grandmother died of tuberculosis and the mother had tuberculosis of the lungs for several years and this had become activated during her pregnancy. The baby had been removed from the mother at birth and had no subsequent contact with her.

ROENTGENOLOGY

By FRANKLIN B. BOGART, M.D.
Medical Arts Building, Chattanooga

The Practical and Experimental Aspects of the Roentgen Treatment of Gas Gangrene and Other Gas-Forming Infections. Kelley, J. F.; Dowell, D. A.; Russum, C.; and Colien, F. E. Radiology, Vol. 31, No. 5, p. 608, November, 1938.

This rather exhaustive and very thorough article should be read by all surgeons and general practitioners. A few outstanding conclusions drawn are as follows:

Since August, 1928, the authors have treated or collected data on 143 cases of gas gangrene treated with X-ray.

If treated during the first twenty-four hours, 100 per cent were cured. By the use of the X-ray film, very early diagnosis is possible. The authors advise the prophylactic use of X-ray in suspected cases; in fact, in all types of injuries such as commonly develop gas gangrene infections.

Patients complaining of an unusual amount of pain, following hypodermic injection, should be X-rayed for gas bacillus infection since several cases of gas bacillus infections have followed hypodermics.

If treatment is started later than the first twenty-four hours of the infection, ten to fifteen per cent of the cases will likely die. Since it is the toxin that kills, and the toxins are formed in all infected tissue, it is essential that all the infected tissue be included in the areas treated with X-ray.

Severe debridement measures are no longer justifiable.

In addition to saving life, many limbs are saved by X-ray treatment.

The use of serum is not absolutely essential to recovery, and its use should be conservative. Tetanus serum must be given.

Some filter and adequate dosage to insure penetration of the involved tissue is essential.

Dosage varies between fifty r and 100 r.

Up to this time, no patient has died of gas gangrene, who has received a treatment in the morning and a treatment in the evening for three days over all of the involved tissue.

SURGERY—GENERAL AND ABDOMINAL

By BATTLE MALONE, II, M.D.
1400 Monroe Avenue, Memphis

Polypoid Disease of the Colon. Raymond F. Hedin, M.D. *Surgery*, Vol. 5, February, 1939.

In the literature varied terms are used to designate this condition and Buie has clarified the nomenclature by calling any condition in which two or more polyps are present in the colon multiple polypoid disease of whatever segment of the colon is involved. The classification of such growths may be made according to etiology, histology or whether they are of the acquired or congenital type. It is generally agreed that the incidence of malignancy in polypoid disease of the colon is exceedingly high, ranging from 11.4 per cent to forty-three per cent. Regarding etiology it is thought that the acquired type is a hyperplastic response to inflammation, caused by ulcerative colitis, dysentery, and other infections. The congenital polyp is considered largely hereditary.

Although multiple polypoid disease is usually considered a rarity Buie reports that one out of every thirty-five patients who complained of a disturbed function of the colon presented this condition. It is seen most often between the ages of fifteen and thirty-five years, according to some writers, but others hold that a majority occur after forty years of age. There is little difference between sexes in the incidence. Regarding the number and distribution of polyps in a group of 166 cases, not the author's, it was shown that single polyps are much more frequent than multiple and that in the several segments of the large bowel the distribution was relatively even except in the splenic and hepatic portions. Their frequency of appearance in the sigmoid is slightly greater.

The symptoms of this disease vary with the location and extent of the pathology. Changes in bowel habit, such as diarrhea, the presence of blood and mucus, anemia, indefinite abdominal pain which may be colicky, and tenesmus are listed among the symptoms. The diagnosis is made from a careful history and examination of the rectum and stool examination. Also a thorough inspection is made with a proctoscope and if polyps are found, roentgenograms using the double contrast method will often reveal lesions higher up in the colon.

Treatment consists of low residue diets, fulguration of polyps through the proctoscope and various surgical procedures. Divergence of the fecal current by ileostomy and colostomy may be followed by a disappearance of the tumors. If the entire

colon is involved with multiple polypoid disease, total colectomy is the only hope for a cure. The author's proposed procedure is one of fulguration of the polyps with a proctoscope introduced through a colostomy opening, which may be done in one or two stages. For polyps in the ascending colon a cecostomy is done and later a proctoscope is passed through the opening, using fulguration to destroy the lesion, similarly a transverse colostomy or one made in the descending colon affords access to the polyps with a proctoscope for fulguration. In the one-stage operation the bowel is packed off, incised, the proctoscope introduced and the lesions fulgured. The bowel is then closed and replaced. While the danger of perforation of the bowel must be considered, the above procedures obviate the necessity of total colectomy which in itself carries a grave risk.

UROLOGY

By TOM R. BARRY, M.D., F.A.C.S.
By G. A. WILLIAMSON, JR., M.D.
Medical Building, Knoxville

Precocious Hypertrophy of Prostate Following Persistent Treatment with Gonadotropic Hormone. Tracy O. Powell. *Journal of Urology*, February, 1939.

The treatment of undescended testes with gonadotropic hormone (pregnancy type) has been widely advocated and used in recent years. Experiments have shown that this hormone, when given to laboratory animals, causes enlargement of the prostate and vesicles in from thirty to sixty per cent. There has been no previous report of prostatic hypertrophy occurring in a boy, however, while receiving this hormone.

This author reports a boy of seventeen who had received injections of gonadotropin over a period of one year for undescended testicle (the amount given was not known). At this time he developed symptoms of prostatic enlargement. Cystoscopic examination revealed an enlargement of the posterior lobe and slight enlargement of the left lateral lobe. Rectal examination showed moderate prostatic hypertrophy. The residual urine was 150 cubic centimeters.

A preparation of desiccated bull's testes was given by mouth, and prostatic massage instituted for a period of eight months, at which time the symptoms subsided, and there was no residual urine.

From the data in this report one would infer that caution should be exercised in treating a young man past puberty with the gonadotropic hormone.

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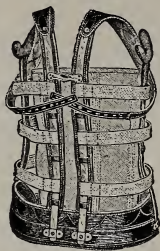
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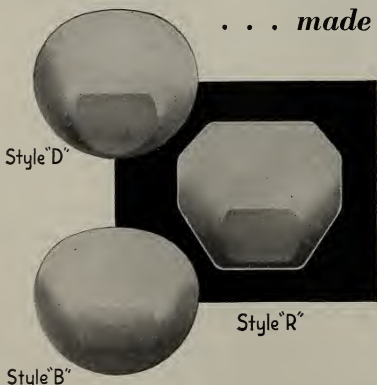
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THE PROBLEM OF ARTHRITIS*

ALBERT WEINSTEIN, M.D., Nashville

THE PROBLEM of chronic arthritis is a serious one for the medical profession as a unit and a particularly important one for the internist and the orthopedist.

According to a survey conducted in the State of Massachusetts, one of each ten individuals more than forty years of age suffers with rheumatism. The incidence was found to increase rapidly after the age of forty until one of four between the ages of seventy and eighty had rheumatism. The disease is twelve times as prevalent as cancer, but only one-fortieth as fatal. When a large group of individuals are held under constant medical surveillance as exists under the English panel-system, a fairly reliable indication of the incidence of an organic disorder can be had. In England it is known that rheumatism produces one-sixth of the total industrial invalidism. In 1922 more than two million pounds in sick benefits were paid, and in 1927 five million pounds. It is to be remembered, of course, that the incidence of rheumatic fever in England is far greater than in this country. However, on investigating the surveys made in this country, it is seen that more than two hundred million dollars are lost each year because of disability due to chronic arthritis. In 1931 thirty-five thousand ex-service men received over ten million dollars in disability compensation for arthritis.

There were more cases of arthritis than heart disease, tuberculosis, and cancer combined.

These statistics are not necessary to emphasize the magnitude of the problem before a group of practitioners. One's career in practice is ordinarily very brief before the crippled sufferer comes pleading for a cure, hoping that by the younger practitioner some new treatment will be made available. The neophyte with enthusiasm tries the panaceas found in the best journals, then those from ordinary medical journals, and then quietly sanctions the use of the miraculous cures found in any daily newspaper.

We are faced with a disorder which is characterized by uncertainty as regards etiology and certainly as regards disability. What is to be done?

In the first place, we must speak an international language. The classifications of arthritis have varied so much that it has been difficult to interpret the many articles written on the subject. In 1924 an International League Against Rheumatism was organized and since then various national societies have been founded. In 1928 the American Committee for the Control of Rheumatism was established. This has resulted, naturally, in more concerted action. Among the important contributions of the committee is the publication of a yearly *Rheumatism Review*.¹

The Committee for the Control of Rheu-

*Read before the Nashville Academy of Medicine, February 21, 1939.

matism has suggested a standard classification of the various types of arthritis. In general, the scheme is as follows:

1. The arthropathies related to trauma.
2. Those related to specific infections of known type, such as gonococcal and tuberculous arthritis.
3. Those probably related to specific infections, for example, rheumatic fever and atrophic arthritis.
4. Those related to degenerative changes in the tissue (hypertrophic arthritis).
5. Those related to certain chemical, metabolic, or endocrine disorders (gout, hemophilia, serum disease, and the like).
6. A miscellaneous group due to neoplasms and mixed forms of the disease.

Before limiting my discussion to a particular type of chronic arthritis, I wish to encourage the careful investigation of each patient with arthritis to the end that the more easily controlled types can be selected and adequately handled. I refer to the patient with unrecognized gout who has had his teeth extracted, tonsils uprooted, prostate massaged, and gall bladder eyed speculatively; also to the patient with parathyroid bone disease, and to the others with "curable" forms of arthritis.

In general, the two major groups of the arthritides are:

1. Atrophic, rheumatoid, proliferative, or infectious arthritis, and
2. Hypertrophic, osteoarthritis, degenerative, or senescent arthritis.

The differential diagnosis (table) is important since treatment for the two groups is quite different. Since hypertrophic arthritis has been shown² to be part of the ageing process its treatment certainly should not be too aggressive. The problem is usually met by reassuring the sufferer that he is not headed for a life of invalidism and by correcting factors causing trauma to the joints such as poor posture, ill-fitted shoes, and obesity.

Let us now consider the problem presented by *atrophic arthritis*. Its specific cause, long sought for, has not been found. In considering etiology there are three chief

factors to be borne in mind: infection, constitution, and environment. Studies of environmental factors in atrophic arthritis reveal a definitely greater incidence of the disease among individuals handicapped by poor diets and inadequate living conditions. The patient who must, through force of economic circumstances, continue at work during active periods of the disease experiences a great handicap to recover. That constitution is a factor is evident when one considers the great frequency of atrophic arthritis in women, the strong familial tendencies of the disease and the thin, asthenic body types so prone to develop it. The factor of infection is present in atrophic arthritis by inference, but its etiologic importance is not as yet proved. Certain manifestations of the disease suggest a generalized infection. Fever, malaise, anorexia, anemia, loss of weight, leucocytosis, and increased sedimentation rate are usually present. Moreover, some observers¹¹ have grown streptococci from the blood stream and joint effusions of patients with active arthritis. In addition, when one considers the fact that the skin of these patients is sensitive to streptococci or their products;³ that their blood serum contains specific agglutinins for streptococci,⁴ one can support with considerable evidence the proposition that streptococci cause atrophic arthritis.

Since the etiology of the disorder is as yet unknown, it is not surprising that the cures which have been proposed are multiple, perhaps illogical, and often ineffectual. These we can now consider.

Management of Foci of Infection.—The eradication of foci of infection is of primary importance. Remove tonsils when present, the teeth only when apical abscess can be demonstrated. Active treatment of sinus disease should be limited to the undoubted infected type. The prostate and related structures may occasionally be the source of the causative agent; the appendix and gall bladder rarely. Their removal for the cure of the disease lays the physician open to deserved criticism.

Colloidal Sulphur.—The hypothesis⁵ has been advanced that the tissues of the ar-

thritic are unable to use sulphur effectively as a detoxifying agent and this may be of etiologic importance in the disease. This idea resulted from the observation of a lowered cystine content of the hair and nails of some patients with arthritis. The popularity of the theory was not enhanced when similar observations were made on patients with pellagra and malnutrition.

This form of treatment rests, therefore, on an elusive theoretical premise. Moreover, a critical analysis of the clinical data results in grave skepticism regarding the effectiveness of the remedy. Nevertheless, the drug houses market sulphur so attractively that much of it continues to be poured into the mouths and injected into the veins of patients with arthritis. Sullivan,⁶ the originator of this form of treatment, has recently modified his point of view regarding the place of sulphur in the treatment of arthritis. He is much less enthusiastic.

Massive Doses of Vitamins.—In 1933 Dreyer and Reed reported results in the treatment of hay fever with large doses of Vitamin D. Two of their patients also suffered from atrophic arthritis. Improvement in the joint condition occurred. On the basis of this unimpressive observation, a few hundred patients were treated with large doses of Vitamin D, and a report was published.⁷ It was not too convincing, but it created considerable interest. This was to the liking of commercial houses producing "alphabetical" vitamin capsules. Their brochures make the treatment of joint disease sound very simple. Experience has shown that massive doses of Vitamin D are of no great value. An abundance of vitamins in the diet is important in arthritis, but the daily administration of 200,000 international units of Vitamin D, as advised, is not justifiable. It may be pointed out that 200,000 units of Vitamin D is the equivalent of 1,177 drops of Viosterol.

Gold Salts.—This form of treatment⁸ has been popularized in England. As in the case of Vitamin D, a chance observation led to its use in arthritis. Patients with tuberculosis were being treated with gold salts. A few also had arthritis. Their joints improved under treatment with gold salts.

This treatment was therefore applied extensively to joint disease. Any good effect of the drug on arthritis is far from established. Its toxic effects render it dangerous. Approximately forty-five per cent of the patients who were treated suffered toxic effects including fever, skin rashes, diarrhea, albuminuria, agranulocytosis, and purpura. Several deaths have been attributed to its use.

Fever Therapy.—The elevation of the body temperature by means of typhoid vaccine intravenously, diathermy, or fever machines results in a temporary increase in the blood supply to the joints and temporary relief from joint pains. However, no permanent improvement follows pyrotherapy, and it is generally agreed that this form of treatment is of but little value. The use of hot wet packs locally, or of heat from infrared lamps, accomplishes as much and with less danger and expense.

Diet.—Fadists have advocated low carbohydrates, low fat, and low caloric diets. None of these possess real value. On the contrary, it is important that all patients secure a diet abundant in calories, minerals, and vitamins.

Colonic Irrigations.—These, fortunately, are rarely encouraged by physicians, although members of various therapeutic cults irrigate to their own financial benefit.

Physiotherapy.—Space does not permit the deserved praise for the judicious use of this supportive measure. The aid afforded by hydrotherapy, judicious massage, paraffin baths, and so forth, to the maintenance of muscle tone, the encouragement of local vascularity, and the preservation of the function of joints is of greatest importance.

Orthopedic Measures.—I regret to say the average internist fails to enlist the orthopedist frequently enough to assist in the prevention of contractures, dislocations, and disabling deformities. The orthopedist has much to offer in this field and is often essential to the proper management of the case.

Histamine.—This form of treatment has been popular in Germany. Since it causes arteriolar dilatation, it should be of value

theoretically in the treatment of arthritis associated with vasospastic phenomena. Actually, the results are disappointing.

Bilateral Lumbar Sympathectomy.—This formidable operation is designed to improve the circulation in the affected joints. However, its originators do not urge it, since the percentage of patients who are relieved is small.

Bee Venom.—The ancients noted relief from joint pain following the sting of a bee. Recently the therapeutic use of this material has been popularized. I have had no experience with the administration of bee venom. The published reports on its use are not encouraging.

Bile Salts.—In 1938 Hench⁹ noted marked improvement in the arthritis of patients who developed jaundice. As an outgrowth of this observation, bilirubin has been administered to patients with arthritis. The liver can handle such an excess of bilirubin that the appearance of jaundice during its administration indicates extensive damage to that organ. When this degree of liver damage occurs, there follow many chemical changes other than a simple increase in the serum content of bilirubin. Other methods for producing jaundice have been attempted, but none of these have proved practicable.

O-Iodoxybenzoic Acid.—This compound was suggested for the treatment of certain types of arthritis by Young and Youmans.¹⁰ The results have been so poor that it now has but few proponents. Its most enthusiastic advocates concluded that it was of value especially in the treatment of gonococcal arthritis. With the recent advent of the Kettering hypertherm and of sulfanilamide, this last indication for o-iodoxybenzoic acid seems to have been destroyed. Sulfanilamide has no value, of course, in the treatment of rheumatoid arthritis.

Chalmougra Oil.—This substance has had enthusiastic supporters, although they have not been numerous. I have had no actual experience with this form of treatment. Conversations with those who have used it have not encouraged me to employ it in atrophic arthritis.

Climate.—Arizona and certain Spas have

the advantage of getting the patient away from the daily routine of life and into a more favorable climate. No more importance can be attached to this type of treatment. However, with certain patients, these factors may prove to be of great practical importance.

Vaccines.—This form of treatment has varied a great deal from year to year in its details. It has always been popular since the preponderance of evidence favors infection as the cause of the disease. As indicated above, the clinical picture of atrophic arthritis simulates closely that of a chronic, generalized infection.

In 1929 Cecil¹¹ and his workers published an account of their investigation by special culture methods of the blood and joint fluids of patients with atrophic arthritis. They obtained positive cultures in more than two-thirds of the cases studied. A hemolytic streptococcus, which they considered specific, was isolated. When this organism was injected into rabbits, it produced an experimental counterpart of atrophic arthritis in man. As is well known now, this work has not been confirmed. Nevertheless, Cecil's observations restimulated interest in the infectious theory of the cause of this disease. The clinical use of many different types of vaccines followed.

Clawson and his co-workers, Wainwright,³ and others have used vaccines prepared from various strains of hemolytic streptococci to which the patient's skin is sensitive. The theory upon which this form of treatment rests is that an individual with atrophic arthritis either has or has had an infection with a hemolytic streptococcus. The infection renders the patient allergic to the streptococcus and generalized allergy and localized allergy (joint tissues) results. According to this theory, desensitization of the individual should remove this property of altered reactivity (allergy) and allow the joints to recover. By testing the skin to several strains of streptococci an appropriate one (causing a "positive" reaction) can be selected for use. Good results are reported in seventy-five to eighty per cent of the patients treated. This method involves the test-

ing of individuals to many strains of streptococci. The test dose is only one million organisms. The strain of streptococcus to which the patient's skin reacts to the greatest degree is used for the preparation of a vaccine and administered intravenously. The initial dose is usually five million organisms and it is increased in increments of five million at five-day intervals. This form of treatment is not

designed to cause reactions and the patient experiences little more than generalized muscle aches a few hours after the injection. There are no chills. Fever does not develop. This form of treatment has been employed by me during the past four years in a special clinic of the Out-Patient Department of the Vanderbilt University Hospital. A report of the results will be published later. The original strains em-

DIFFERENTIAL DIAGNOSIS OF RHEUMATOID AND OSTEOARTHRITIS*

	RHEUMATOID ARTHRITIS	OSTEOARTHRITIS
	Atrophic arthritis Proliferative arthritis Chronic infectious arthritis	Hypertrophic arthritis Degenerative arthritis Menopausal arthritis Senile arthritis

CLINICAL DIFFERENTIATION

Geographic distribution	Most common in temperate climates; rare in tropics.	Climate not much of a factor.
Family history	Usually a history of rheumatic fever or rheumatoid arthritis in an immediate member of family.	Frequently a history of a similar form of arthritis in one or both parents.
Past history.	Occasionally a history of rheumatic fever; frequently of tonsillitis or sinusitis.	Not characteristic; sometimes a history of trauma or faulty body mechanics.
Age at onset.	Any age; over 80% between twenty and fifty.	Rare before 40. In women most common at menopause (menopausal arthritis).
Mode of onset.	Rarely acute; usually sub-acute or insidious; often accompanied by migratory pains.	Insidious; not accompanied by migratory pain.
Patient's general condition.	Usually undernourished, anemic, and "chronically ill." Frequently slight fever (99) and slight leucocytosis.	Well nourished, frequently obese, no anemia. No fever. No leucocytosis.
Joint involvement.	Symmetrical and generalized; proximal interphalangeal joints especially involved.	Usually weight-bearing joints, spine, hips, knees. Exception: Distal joints of fingers, Heberden's nodes.
Appearance of joints.	Early: Periarticular swelling, fusiform fingers. Late: Ankylosis, extreme deformity, ulnar deflection.	Early: Slight articular enlargement. Late: More pronounced articular enlargement; ankylosis slight and never complete, Heberden's nodes.
Muscular atrophy.	Often marked, particularly in later stages.	Not characteristic.
Cutaneous changes.	1. Extremities frequently cold and clammy; skin atrophic and glossy; redness of thenar and hypothenar eminences. 2. Psoriasis often present.	No characteristic feature.
Subcutaneous nodules.	Present in 15 to 20 per cent of cases.	Not present.

LABORATORY DIFFERENTIATION

Agglutination reaction with hemolytic streptococci.	Positive in 50 per cent of typical cases.	Never definitely positive.
Sedimentation rate.	Usually greatly increased; tends to return to normal as patient improves.	Normal or only slightly increased.
Roentgenologic findings.	Early: Osteoporosis, periarticular swelling and joint effusion. Late: Narrowing of joint space, bone destruction, ankylosis, and deformities.	Early: No osteoporosis; slight lipping at joint margins. Late: Marked lipping, osteophytes.

*Boots, R. H.—Journal of Laboratory and Clinical Medicine—22: 14, 1936.

ployed, which include Cecil's "specific" streptococcus (AB-13), were obtained from Dr. C. W. Wainwright of Baltimore.

It is recognized by all who use the method that skin sensitivity to an organism does not necessarily indicate the presence of generalized allergy. In spite of the various criticisms of this form of treatment, it can be said that it is the only treatment of arthritis which is directed toward relieving a condition probably present (allergy) and presumably due to a specific infectious state. Much additional proof is needed before these presumptions can be declared established facts. In the meantime therapeutics, while attending upon science, must not fail to explore those promising possibilities which are not in themselves dangerous and which appear rational in the light of current knowledge.

The vaccine of Crowe deserves discussion. In 1924 this English observer reported the recovery of a staphylococcus ("micrococcus deformans") from the stools of patients with atrophic arthritis and a streptococcus from the patients with hypertrophic arthritis. I have used this vaccine, intermittently, during the past ten years. I have read Crowe's treatises,¹² I have studied his methods, and have followed them carefully. My personal experiences with this vaccine lead me to share the disappointment expressed by the American Committee for the Control of Rheumatism.

SUMMARY AND CONCLUSIONS

The analysis of results obtained from any form of treatment of atrophic arthritis should be tempered with criticism. Almost any treatment will help slightly more than half of the patients. We should continue the search for the cause of the disease, but we should not forget that the joint disorders are associated with generalized disease manifestations. This necessitates treatment of the individual as a whole.

Comprehensive therapy includes:

1. Complete rest, as in the presence of any form of generalized infection, during the active stages of the disease.
2. The maintenance of a state of good

nutrition with adequate representation of the various vitamins and mineral elements.

3. The relief of pain by the use of simple anodynes. The salicylates are preferable.
4. Teaching the patient reasonable restraint from the panicky use of any and every nostrum.
5. The prevention of deformities.
6. Desensitization with vaccines prepared from hemolytic streptococci when skin tests indicate the possible existence of bacterial allergy.

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EXTRAUTERINE PREGNANCY*

CECIL E. NEWELL, M.D., M.S., in Surgery, F.A.C.S., Chattanooga

THE TERM "extrauterine" pregnancy means a pregnancy which has taken place outside of the uterus. Although it is frequently used synonymously, "ectopic" pregnancy means conception not at the usual site. Therefore, intra-uterine pregnancies other than the ordinary fundic type, technically fall under this heading. Tubal pregnancy defines gestation as occurring within the Fallopian tube. When it involves that portion of the tube that passes through the wall of the uterus, it is spoken of as an "interstitial" pregnancy. If gestation develops at the frimbriated end of the tube, it is usually referred to as a "tubo-ovarian" pregnancy. It is within the realm of possibility to have a primary pregnancy in the ovary.¹⁰ This naturally is called "ovarian" pregnancy. In the abdomen, it is also thought possible to have a primary ectopic pregnancy.¹ The ovum has been found implanted on the peritoneum of almost all of the abdominal viscera. Naturally, this is known as "abdominal," sometimes "wandering" pregnancy.

INCIDENCE

Statistics are consistently in agreement that the incidence of extrauterine pregnancy occurs approximately once in every 300 to 400 pregnancies. Hall found it to be 1:325, Schumann 1:303. Wynne found a higher incidence in 22,688 gynecological patients. His figure was 1.3 per cent. But, of course, this is larger than it would be for the same number of pregnancies.

True, or primary, ovarian pregnancy is the rarest type of all, if it does occur; interstitial pregnancy is the next rarest,^{5, 12} while tubal pregnancy is the most frequent type.

ETIOLOGY

It is self-evident that something that impedes the descent of the fertilized ovum to

the uterine cavity is the cause of extrauterine pregnancy. There are numerous theories as to this cause. Inflammation within the tube by Neisserian infection is the most popular; by other agents, less popular; still rarer is inflammation from without such as appendicitis, diverticulitis, and peritonitis. One unique theory holds that this impediment in descent is due to the presence of tubal diverticuli³¹ in which the fertilized ovum gets caught. Destruction of the cilia on the mucous membrane of the tube has also been held responsible.²⁶ Outside factors are those which occlude or kink the tube. Cosgrove has another unique explanation. He assumes the presence of an extrauterine endometrial transplant in which the fertilized ovum comes to rest and then develops in this ectopic endometrial tissue.

PATHOLOGY

The fertilized ovum becomes implanted in the tube most frequently in the distal half. Increase in vascularity commences soon after implantation. Decidual cells are then formed, probably from stroma cells in the tube. Trophoblastic wandering cells are supposed to collect and form villi. These penetrate into the tubal musculature which often becomes hypertrophied. This muscular thickening, however, cannot keep pace, in some cases, with the increased size of the products of conception, and rupture of the tube is the result. If the rupture is into the abdominal cavity massive hemorrhage, shock, and the signs of peritoneal irritation make up the clinical picture. Occasionally, however, the rent in the tube occurs into the broad ligament and the products of conception lodge between the peritoneal layers within the ligament.²⁸

It is becoming more evident that in most tubal pregnancies, muscular hypertrophy increases in proportion with the ovum and sooner or later aided by voluntary straining, such as lifting or defecation, the ovum is aborted from the tube by pressure. If

*Read at the regular meeting of the Chattanooga and Hamilton County Medical Society, March 2, 1939, Chattanooga, Tennessee.

the fetus be extruded through the proximal end into the uterus (which is rare) the pathologic site of the pregnancy is usually unrecognized.

If the sac is ruptured and the ovum squeezed out into the tube itself, a gradual bleeding within the tube occurs and a hematosalpinx frequently results.⁸

Extrusion, however, from the frimbriated end is the most frequent type of tubal abortion. If the fetus is dead it will be absorbed provided it is moderately young. If it is older and hard bones have already formed, mummification,³ calcification,² skeletonization,¹⁴ or the slow transition into adipocere¹⁸ may occur. At least partial hyalinization and calcification usually takes place and the resultant mass is usually spoken of as a lithopedion.

If the membranes are still intact and the fetus living, the placenta occasionally attaches itself to the peritoneum from which it derives further nourishment, and a secondary ectopic gestation may become established. If its nourishment is sufficient, as it occasionally is, the fetus develops normally, but can be delivered alive only by abdominal section. Frequently, however, serious abnormalities of development are present, and the fetus is not as liable to reach advanced maturity as in a primary abdominal pregnancy.

Subsequent nourishment, however, is usually inadequate, the fetus dies and the woman finally decides she must not have been pregnant after all. Occasionally, years pass before the true condition is discovered. McCormick's patient carried hers fifty-one years. Occasionally, the fetus becomes infected and forms an abscess or perforates into a viscus.¹⁰

Coincident with the development of the ovum in its ectopic site, the endometrium undergoes a decidual transformation. The degeneration of this endometrium is thought by most observers to be the cause of the slight spotting of blood seen in these cases.²²

SIGNS AND SYMPTOMS

Because of the multiple pathological varieties and the numerous courses of ectopic pregnancy the symptoms are extremely va-

riable and frequently baffling. The three most important and constant findings, however, are (1) *pain*,²⁹ which may be mild and diffuse if there is no bleeding or only slight oozing, or sharp and agonizing if there has been a rupture with profuse hemorrhage; (2) *vaginal bleeding*, usually dark with no tendency of the blood to clot; and (3) *shock*, due to intra-abdominal hemorrhage or to visceral trauma from rupture.

Other frequent symptoms include missed period with subsequent spotting, fainting, dizziness, or weakness following straining.

The physical examination sometimes reveals the genital signs of early pregnancy. Occasionally, the mass of an unruptured ectopic pregnancy is also left. After rupture, besides the tender mass lateral to the uterus, the pelvic hematocele in the cul-de-sac feels like a doughy mass. The bluish-black discoloration about the umbilicus called Cullen's sign is inconstant.

DIAGNOSIS

Ricci and Di Palma wrote: "In the diagnosis of ectopic gestation, accuracy does not prevail." This is certainly true before rupture.

The diagnosis is occasionally correctly made in a thin woman who has missed a period, has been spotting, and is having pain in one side of her pelvis, particularly where a tender mass can be definitely palpated in that tube. A positive Friedman or Ascheim-Zondek test may be of aid in unruptured cases.

The late diagnosis of extrauterine pregnancy is sometimes made when the gestation has passed nine months and no labor set in, especially when the uterus is palpable and found to be of normal size or only slightly enlarged.

Kirklin, Simon,^{14, 13, 4, 7} and others have diagnosed extrauterine pregnancies by X-rays. Of course, all of these were in an advanced stage of development when bones could be seen outside the uterus. The most frequent conditions to be differentiated from this condition by the X-ray are calcified fibroids and dermoid cysts of the ovary.

Siddall and Jarvis have examined numerous curettage specimens in suspected ec-

topic pregnancy and made correct positive diagnoses by finding intact decidua without chorionic villi.

Aside from these exceptions extrauterine pregnancy is seldom diagnosed unless some intra-abdominal accident such as rupture has taken place.

The diagnosis of the dramatic type of ruptured tubal pregnancy is usually not a difficult procedure,³⁰ and it is surprising to see the percentage of mistaken diagnosis in some of the large series of cases. It should be unnecessary to have to do a cul-de-sac puncture to confirm the diagnosis in spite of advocates for it.

TREATMENT

The treatment of ectopic gestation is distinctly surgical. It becomes imperative when accompanied by severe internal hemorrhage. It is well to say treat the shock, and then operate.¹⁷ But do not treat the shock too long. By far the best method in this emergency is to treat the shock *while* the operating room is being prepared, and *during* the operation. If bleeding has ceased from lowered blood pressure or clot formation, raising the pressure by continued intravenous therapy is apt to start the hemorrhage again. If the bleeding has not stopped, then, the more fluids poured into the veins the more blood is going to pour out of the rupture, and nothing can stop it but surgery.

Johannes Thies, of Leipzig, is accredited as being the first to utilize the free intra-abdominal blood for infusion purposes in these cases. This was no further back than 1914. I have never found occasion to use auto-transfusion, though I can see how in the absence of facilities for a regular transfusion a catastrophe might be averted by its use.²¹

PROGNOSIS

The prognosis is good¹⁵ and the results are dramatic if rapid, rational, pre-operative, and operative measures are carried out. Due to the nature of the emergency, a fast operator and good teamwork is essential for good results.

It is interesting to note that Smith followed up 144 postoperative cases in which

conception was possible. In this series there were eighty pregnancies, of which *twenty-three were repeated tubal pregnancies*. We recently operated the second time on the same patient for ruptured tubal pregnancy. In spite of opposition to this,¹⁵ it wise to remove the other tube where time permits, if the mother has living children.

CASE REPORTS

Three widely differing cases have been selected to illustrate the complexity of the diagnosis, course, and management of extrauterine pregnancy.

Case 1, No. 39059, Mrs. R. F., white, age twenty-three, mother of one normal child, was admitted in extremis, July 7, 1935, complaining of abdominal cramps. There had been nothing abnormal in her menstrual history until her last period began on regular time thirty-four days previously. Bleeding after that was continuous. Four days previous to admission she went to another hospital where she was admitted and a diagnosis of right tubal pregnancy was made. After four days she became dissatisfied and left. She rode the six miles to her home in an auto. That night while sitting at the table, seven hours previous to admission, she had a sharp pain in the right abdomen, followed by low abdominal cramps which progressively increased.

Examination revealed a small well-developed, acutely ill patient in extreme shock, ashen, clammy, and nearly pulseless. Temperature ninety-eight degrees, pulse 140, blood pressure 70/40. Abdomen was slightly distended. Vaginal examination revealed the cervix to be enlarged and there was dark unclotted blood in the vagina. On bimanual examination there was a soft, tense, doughy mass in the right adnexal region with exquisite tenderness. The red blood cell count was 3,090,000. Hemoglobin seventy per cent. Leukocyte count 14,000. There were fifteen per cent small lymphocytes and eighty-five per cent neutrophils.

A diagnosis of ruptured right tubal pregnancy was made and under nitros oxide-oxygen anesthesia hypertonic glucose in normal saline was administered intravenously, while the abdomen was opened in the

midline. Both tubes were removed, the blood clots scooped out, and the abdomen closed in layers. Time of operation, including opening and closure, was twenty-two minutes.

The right tube measured five by two by two centimeters. There was a rupture in the middle from which was extruding remnants of a pregnancy. Left tube, no pathology.

Immediately following operation this patient was given a 300 cubic centimeter blood transfusion by the indirect method. Intravenous glucose was continued for three days. Recovery was uneventful and she was discharged from the hospital on the thirteenth day.

Case 2, No. 37052, Mrs. R. M. R., white, age forty-five, was admitted October 25, 1938, with acute appendicitis. During routine exploration after the appendectomy a large hard ball of omentum was found rather firmly attached to the mesentery of the ileum. When the omentum was unrappd a solidly calcified lithopedion (Fig. 1) which measured three centimeters in diameter was removed. No abdominal menstrual history could ever be elicited

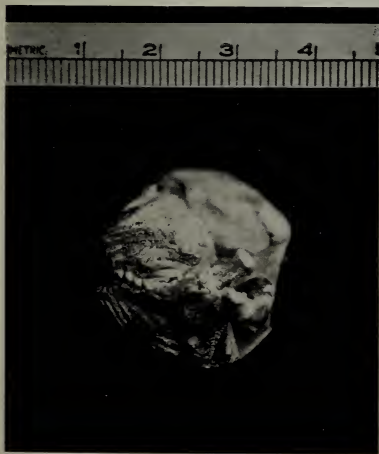


Fig. 1. Photo of small completely calcified lithopedion. Case 2.

from this patient. The lithopedion was purely an incidental finding.

Case 3, No. 42874, Mrs. E. K. S., white, age thirty-four, was admitted for acute intestinal obstruction May 26, 1938.

This patient, the mother of four living children, had married the second time three years before admission. Fifteen years previously she had her appendix and portions of both ovaries removed. Two years before admission her left ovary was removed because of a large ovarian cyst. She stated that she had never been well since this operation, and that her periods which had always been normal had been irregular since. For five months she had had a bloody discharge. Then for three months she had several attacks of severe abdominal pain, distention, obstipation, vomiting with rapidly progressing weakness, and weight loss.

Examination revealed a very pale, weak, sick woman with marked abdominal distention, tenderness, and rigidity. She was too tender and distended to obtain any information from the vaginal examination. Her temperature was $99 \frac{4}{5}$ degrees, pulse 128, blood pressure 108/60. Urinalysis and Wassermann tests were negative. Her leukocyte count was 18,000, P. M. N.'s ninety-two per cent, lymphocytes eight per cent, red blood cells 1,285,000, hemoglobin forty per cent, blood group 3. She was prepared for operation by the administration of intravenous glucose, a blood transfusion, hot turpentine stupes were applied to her abdomen, and one ampoule of pitresin given simultaneously with an enema. Her obstruction opened up under this medication so operation was deferred.

When the distention subsided two distinct masses could be felt, one in the pelvis and one in the abdomen to the left of the umbilicus. They were both about five inches in diameter and the abdominal one was quite fixed. The pelvic tumor was considered to be a fibroid and the abdominal one probably a carcinoma of the sigmoid.

While preparing her for surgery with transfusions, iron, and liver, she developed a very severe myocarditis, began to fibrillate and went into congestive heart failure. She recovered from this only to develop a right

pleurisy with effusion. Because of these complications she was sent home to recuperate before operation.

July 12, 1938, she returned in another milder obstructive attack. This was relieved again as before. She was given another transfusion even though her red blood cell count was 4,000,000. Two days later, under combined local and gas-ether anesthesia, her abdomen was opened in the midline. Instead of the expected fibroid, the pelvic tumor was a mass of placental tissue about

femoral thrombophlebitis, this patient made a splendid recovery and left the hospital on the fifteenth post-operative day. She was in excellent health and spirits when last seen Christmas day.

SUMMARY

1. Some of the more recent literature on extrauterine pregnancy is reviewed and the subject discussed from personal experience.

2. Extrauterine pregnancy is a frequent and serious type of gestation.



Fig. 2. Photo of mummifying early lithopedion. The fetus "A" was quite separate from the placenta "B," tube "C," and ovarian remnant "D." Case 3.

five inches in diameter embedded in dense adhesions to the right pelvic wall, and the uterus, encompassing the base of the right tube. The entire mass was removed with the tube and remnant of ovary. (Fig. 2.) The abdominal tumor, after separating the adhesions, and dissecting it loose from the mesentery of the sigmoid and from numerous loops of intestine and omentum, proved to be a mummifying fetus with beginning calcium deposits—a lithopedion.

With the exception of a rather severe left

3. The diagnosis is often a difficult procedure.

4. The different courses of the pregnancy are more numerous than its many varieties.

5. Treatment is always surgical. Rapid efficient pre-operative preparation and teamwork in the operation is most important.

6. The prognosis is excellent when treatment is proper.

7. Three widely differing types of cases are reported as illustrative examples.

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MANIFESTATIONS OF GALL-BLADDER DISEASE WITH ANALYSIS OF 841 OPERATIVE CASES

WILLIAM D. HAGGARD, M.D., F.A.C.S., D.C.L., Professor of Clinical Surgery
Vanderbilt University School of Medicine, Surgeon to St. Thomas Hospital
and JAMES A. KIRTLEY, JR., M.D., Nashville

THE CLINICAL symptoms of gall-bladder disease and gallstone colic have been understood and appreciated for years. Well known are the characteristics of biliary colic, which is often sudden in onset, with severe pain, which may be agonizing. It is referred to the right scapular region, probably due to spasm of the diaphragm and attended with a sensation of pressure, nausea, usually vomiting and eructation. They may come on at night and be relieved by morning. The pain is often so severe that hypodermics are required. The patient indicates the location of the pain by the characteristic gesture of putting his left hand in front of the gall bladder and his right thumb over the lower thorax posteriorly. A number of fairly well identified syndromes of gall-bladder disease have been gradually recognized, many of them masquerading as gastric symptoms. Balfour describes a series of less well-marked, but severe types sometimes so suggestive as to be almost pathognomonic.

There are mild spells of rather sudden epigastric distress, spoken of by the patient as gas. They are associated with upward pressure, often with belching and regurgitation and sometimes relieved by soda. The patient may notice that these attacks follow certain foods. They can be identified by their irregularity as manifestations of cholecystitis.

Then there are more prolonged periods of dull pain in the pit of the stomach, or in the right upper abdomen, or perhaps throughout the liver area, that are aggravated by eating, by deep inspiration, by exercise, by acute respiratory infections, and even sometimes by menstruation.

Another type of cholecystitis mimics gastric or duodenal ulcer, especially if it is complicated by adhesions or pancreatitis. If these symptoms have been preceded by characteristic gallstone colic it will help in

the recognition of the more chronic type. A negative history of jaundice or severe colic in such cases is more suggestive of peptic ulcer than chronic cholecystitis. Eusterman says the cases without stone are more prone to imitate ulcer than cases of cholecystitis with stone. They have the hunger pain of ulcer and discomfort two or three hours after food and are relieved by vomiting food or taking alkalies. These are the cases requiring the Graham dye and X-ray studies of the stomach and duodenum also.

The classical syndrome of stone in the common duct is a sudden colic followed by chill, very high fever, and in twenty-four to forty-eight hours by jaundice. Most attacks, however, are atypical and two-fifths of the common duct stones are not associated with jaundice. The gall bladder is not distended in 84.6 per cent. (Courvoisier.)

In roughly eighty per cent of the patients giving a typical history of recurrent attacks of gall-bladder disease, very definite gross and microscopical pathological changes are present. In cases of nonfunctioning gall bladder by X-ray, about ninety per cent show pathological changes. By withholding operation on those patients in whom the history is atypical and the X-ray findings not definite, we obtain even a higher per cent of satisfactory cures. We know that sensitivity to certain foods and emotional upsets can both simulate typical gallstone colic and we not infrequently encounter a patient giving a typical history of repeated attacks and then find a normally functioning gall bladder by X-ray. In such cases, every possible factor must be excluded before removing that gall bladder, otherwise we have added a needless operation and scar to a patient who will continue with her same attacks. Follow-up studies on series of cholecystectomies show that from fifteen to

thirty per cent of the patients are not improved by operation.

Medical measures have little or nothing to offer in cases of severe gall-bladder disease. Alvarez, of the Mayo Clinic, states in a recent paper that the benefits of duodenal drainage in his experience did not justify the discomfort and expense to the patient. Various dietary measures have been advanced, but no significant results obtained.

In 1921 Rous and MacMaster observed that the normal gall bladder was able to concentrate its bile to one-seventh of its natural bulk. Graham and Cole utilized this fact in working out the present-day methods of cholecystography, which tells us whether the gall bladder is normal or abnormal in this function. We have learned that it is not satisfactory to remove a gall bladder simply because it is slow in emptying or because the radiologist says there may be "adhesions" about it when the gall bladder does concentrate the dye.

Andrews et al., at the University of Chicago, have shown recently that most strains of bacteria even when injected into the gall bladder in overwhelming numbers do not cause cholecystitis. They found that the injection of bile salts into the gall bladder did produce gross and microscopic changes, which closely resembled acute cholecystitis in man. As a result, they offer the suggestion that a temporary increase in bile salt concentration in the gall bladder causes clinical cholecystitis.

Martensson (*Arch. of Surg.*, April 1937) found in Stockholm that twenty-five per cent of the patients had clinical symptoms, *i. e.*, 4.9 per cent of those coming to necropsy, computed on the population of Stockholm. He estimated that 10.5 per cent of the population had gallstones. Necropsies in this country by Mitchell showed of 1,600 dying from violence or disease and not in hospitals that the percentage of calculi found was 3.1 per cent. The incidence of gallstones in the whites was found to be ten times as great as among the negroes in the South. (Boland.)

While the mixed composition of stone is the most frequent, the pure cholesterol stone

is probably the next more frequent group. The formation is apparently a precipitation of the inflammatory exudate and the bile. The former, the bile, being electronegative, a colloid solution, and the electropositive is the inflammatory exudate of mucopus. Depending upon the amount of bile, the stone may either be light in color or darkly pigmented. Like stones in the urinary bladder, they may be mixed chemically, but they all seem to contain both colloids and crystalloids. We see so many faceted stones of the same pattern, evidencing one or more successive crops, all originating at the same time.

Axchoff believes that it is essential to have a permanent or temporary stoppage of the cystic duct with inflammatory edema or stone. It will be filled with mucopus and causes so-called hydrops because no bile can get in. When the obstruction of the cystic duct gives way from inflammatory edema and bile enters, then when it comes in contact with the mucopus, precipitation occurs. This may be repeated at intervals and we thus see the stone forming in laminae. If infection predominates, acute empyema of the gall bladder ensues.

Hodges and Lamp (*Am. J. of Roent.*, February, 1937) summarize their very large experience at Ann Arbor by saying that impaired concentrating power of the gall bladder is frequently associated with cholelithiasis. In their series the coincidence is 87.6 per cent and that cholelithiasis is always attended by some deviation from normal cystographic findings. On the other hand, normal response to the cholecystographic test of gall-bladder function may be considered eighty-four per cent accurate in excluding major inflammatory diseases and complete nonvisualization of the gall bladder is associated with major inflammatory involvement of the wall in eighty per cent of all cases so reported.

Most of the papers relating to surgery of the gall bladder in the past few years have dealt with the question of early, immediate removal of the gall bladder in acute cholecystitis. Heuer, in a series of 153 cases of immediate operation, reported a mortality of 3.2 per cent which is unusually low. In

other series, however, immediate operation on all cases has carried a mortality of ten per cent. (Dixon.) Bergh, of the University of Minnesota, after studying their cases of acute cholecystitis, says: "During the past few years a number of surgeons have advocated early operation in cases of acute cholecystitis. Many others, however, have condemned such a procedure as being more dangerous than the conservative policy of allowing the acute process to subside before operative interference is undertaken. The problem cannot be settled at this time." His report indicated that definite benefit resulted by delaying operation until fever subsided and the patient's general condition could be improved by fluids, etc., except where early perforation had occurred. In our experience early "acute" perforation into the free peritoneal cavity has been very rare (two cases), though walled-off abscesses around the gall bladder are more common and without question are best treated conservatively. In a recent study of 500 cases of operations on the gall bladder at Vanderbilt Hospital there was not a single case of death from peritonitis following acute perforation of the gall bladder. (Brooks.) Heuer believes his lowered mortality in early operation was due to the prevention of gangrene and perforation of the gall bladder, which may occur while one is waiting for the inflammatory process to subside.

It is probably true that, if mild, a case could be operated on in the very beginning before serious pathological changes occurred, and it would be much safer. Unfortunately, for various reasons, operation may not be advised by the first physician who sees the patient, the hospitalization is not obtained early, and the surgeon does not see the patient in the first few hours. Brigham Hospital had a mortality of 20.5 per cent from immediate operation. Branch and Zollinger report after an average of 4.7 days preoperative treatment, the mortality was 8.7 per cent in the same hospital.

The majority of patients with acute cholecystitis are seen by the internist and he rarely sends these patients to the hospital with the same promptitude that he does

acute appendicitis cases so that, as a matter of fact, they probably would come on an average on the fourth day. If both lesions could be operated upon in the early hours of the disease there would be a very low mortality. After either, however, has advanced a number of days they had best be prepared without operative intervention at the moment. This is truer of the gall bladder than it is of the appendix because of the proneness of perforation in the appendix and the ability of the gall bladder to localize its infection and the rarity of perforation. If the patient improves upon intelligent management the attitude of the surgeon would be to allow him to keep on improving until he is free of fever and has had adequate preparatory regime to withstand the dangers of renal, cardiac, and hepatic complications. For the latter, the daily administration of considerable quantities of orange juice with sugar is excellent in the protection of the liver glycogen. Safety is thus assured and the pleasing absence of vomiting follows this preparation.

TECHNIQUE

Moynihan says, "If I might presume to offer any advice to the surgeon who has not had great and continued opportunities for practical work, I would suggest to him . . . to leave the surgery of the gall bladder alone." (Boyce, *S. G. and O.*, July, 1936.) The great English sovereign of surgery had in mind the extremely difficult and surprising technical hazards that may confront the operating surgeon in comparatively simple cases of surgery upon the biliary tract and as well the entirely unexpected complications after operation. On account of the great possibility of damage to the liver and secondarily to the kidney in diseases of the gall bladder and ducts, which almost invariably happen in some degree, this type of patient must be regarded as a more or less bad risk. In any case, manifesting only minor dyspeptic complaint or occasional mild or severe biliary colic there lurks the likelihood of severe infection ensuing or partially complete biliary obstruction. There may be, too, acute cholecystitis complicated by peritonitis with per-

foration and also suppurative cholangitis due to stone, suppurative pylephlebitis, and jaundice so severe that it causes hemorrhage from obstruction and cholemia.

In any operation upon the gall bladder it is possible to have peritonitis, injuries to the extrahepatic ducts, pneumonia as a complication, heart failure, embolism, and, as in all other abdominal cases, occasional rupture of the incision. Uremia is a lurking assassin as well as the more insidious liver and renal deaths. The likelihood of anomalies in the arrangement of the ducts and vessels should be constantly kept in mind so that no injury is done and the hemostasis can be accurate. This can only be accomplished by isolation of the duct from the tip of the gall bladder down to and with exposure of the common duct by gentle dry dissection. If, by any chance, an aberrant hepatic duct should be injured it is better repaired than that it ever can be again.

Cholecystectomy may be a relatively simple procedure and it can become one of the most complicated and difficult of any abdominal operation. In addition to forbidding pathological conditions the patient in poor condition must cause more morbidity and a larger mortality.

The essential of any technique, no matter how meticulous or how varied, depends upon, first, an ample incision going somewhat below the level of the umbilicus and, second, a device like Masson's gauze pack above the liver to displace it downward, or, simpler still, placing the hand between the liver and the diaphragm to let the atmospheric pressure do the same thing. Third, adequate packing to carry the transverse colon, omentum and duodenum far over to the left, putting the gastrohepatic omentum on the stretch, so that the peritoneum over the common duct can be incised and its condition inspected in case of need for its opening and exploration. Fourth, manufacture of peritoneal flaps from the liver to the gall bladder by dividing the peritoneum between the liver and the gall bladder for closure of the fossa. Fifth, adequate exposure by blunt gauze dissection on forceps of the cystic duct and its junction with the common and the hepatic and visualization

of the common duct so that injury to these structures is reduced to the minimum. Sixth, where the gall bladder is acute and edematous it is better removed from above downward. Where it is difficult to create peritoneal flaps, the oozing from the liver can be controlled by hot gauze pack in the fossa, upon which pressure is made by a Deaver retractor. Seventh, ligation of the cystic duct by small chromic catgut, supplemented by a second ligature of braided silk to insure tight closure. Drainage, therefore, is not required in the majority of cases. Drainage is required, however, where contamination has occurred, where bleeding has been difficult to control and in cases where the common duct has been opened and leakage may occur. Care should always be used to see that the drain is in Morrison's pouch and kept away from the ligature and suture line over the duct. If this is not done, biliary drainage will occur in a large per cent of cases from the presence of the drain inexpertly introduced. In septic cases stab wound drainage through the loin is very desirable, not only for purposes of downhill drainage, but for more aseptic closure of the anterior incision and the prevention of infection.

PARTIAL OR SUBTOTAL CHOLECYSTECTOMY

In 1930 I described under the subhead of "Chemical Cholecystectomy" (referring to the destruction of the mucosa by carbolic acid) a method for partial excision of gangrenous, greatly thickened, edematous gall bladders. (*Wisconsin Med. Jour.*, December, 1930.)

FIGURES I, II, III

It consisted, briefly, in splitting down the middle of the gall bladder from the fundus to the cystic duct with adequate peritoneal protection and removal of the contents by aspiration. The stones in the gall bladder were then removed. Secondary, the excess of the gangrenous gall bladder wall was excised down to the attachment of the posterior wall of the gall bladder to the liver fossa. Thirdly, destroying the mucosa of the gall bladder with carbolic acid followed by alcohol or the red loop of the electrocautery superficially applied to the left-in

wall of the gall bladder. Fourthly, the insertion of a catheter into the cystic duct. And, fifthly, the sewing over after hemostasis by ligature of the cut ends of the gall-bladder walls by a suture.

As a rule, this does away with, first, the necessity of placing objectionable drains in the peritoneum. Second, it avoids the danger of injury to the deeper ducts. Third, the removal of practically all of the gross disease of the gall bladder and the retention of that part of the gall bladder, usually the healthiest, covering the fossa of the liver. To remove this often leaves a red, raw, bleeding surface that is difficult to suture and often requires extensive packing and a drainage.

In the greatly edematous, gangrenous gall bladder or even the small contracted gall bladder, which is very difficult to remove on account of the waterlogging of the first two conditions, a safe procedure is to split open the gall bladder down to the cystic duct and to remove the excess of the gall-bladder wall, all except that part which is adherent to the fossa of the liver. This is notoriously difficult to remove and often leaves a raw bleeding surface. Hemostasis cannot be adequately obtained. There is considerable danger of doing damage to the deeper ducts. Whereas, in partial cholecystectomy (or subtotal) the ducts need not be interfered with. A tube can be placed in the cystic duct for drainage and the remaining portion, which is usually the healthiest portion of the gall bladder, can be accurately sewn over the catheter after the mucous membrane of the gall bladder is destroyed either by iodine, the red loos of the electrocautery, or by carbolic and alcohol. This is a very safe procedure in a most desperate condition.

Ritchie reports fifteen recoveries out of sixteen partial cholecystectomies by what he calls the wing operation, by excision of most of both sides of the gall bladder, saving only that part which is embedded in the liver, leaving enough for suturing the gall bladder over a catheter in the cystic duct after having removed the mucosa of the gall bladder.

In a study of 841 cases of cholecystec-

tomy in our clinic, we find that during the past two years that we have employed partial cholecystectomy in one out of every eleven cases with no deaths.

COMMON DUCT

There were eighty-five of our cases in which the common duct was dilated and harboring one or more stones, necessitating choledochotomy in addition to either drainage or removal of the gall bladder. A number of these cases were jaundiced and had cholangitis with chills and fever, yet there were only eight deaths, which is a mortality of 9.4 per cent, three per cent lower than the same number of patients in which drainage of the gall bladder alone was carried out. This figure compares very favorably with other reports of operations on the common duct. There were nine cases in which palliative operations for cancer of the gall bladder or head of the pancreas were performed with the usual disappointing results that accompany most palliative procedures for cancer. In three instances choledochoduodenostomy was done for stricture of the common duct.

It has been our practice to carefully examine the common bile duct in all cases before removing the gall bladder and to explore it wherever it is dilated, except in the presence of definite cancer of the head of the pancreas, in which case a cholecystogastrostomy is done.

It is hardly necessary to mention that the gall bladder should not be removed in the presence of cancer of the pancreas or obstruction of the common duct until this obstruction is relieved. The gall bladder may be later utilized for temporary or permanent relief of jaundice due to tumor or obstruction.

In the colics which sometimes follow cholecystectomy or choledochotomy making one fear stone in the duct, clinical experience as well as experimental observations on man and animals have shown that therapeutic doses of morphine, pantopon, dilaudid, and even codeine will frequently produce spasm of the sphincter of Oddi, which in turn increases the pressure within the duct and causes more pain. As would be

anticipated, the antispasmodics, like amyl nitrite and nitroglycerin, relax this sphincter spasm and relieve the pain.

Walters has reported a case of stone in the common duct after operation which was finally fragmented by injecting a few cubic centimeters of ether into the T tube daily and then dilating the sphincter of Oddi with amyl nitrite, allowing the stone fragments to pass into the duodenum. This of course was checked by repeated X-rays taken with brominol injected as an opaque medium.

Best suggests in cases of overlooked common duct stones that the intraductal pressure be increased, giving dehydrocholeic acid and at the same time injecting warm olive oil through the T tube to relax the sphincter.

The mortality from removal of stones in the common duct is at least twice as high as where the stones are in the gall bladder, although the simple exploration of the common duct, where no stone is found, is attended with a very slightly higher mortality than if not explored.

One cannot depend upon jaundice, as it was absent in Lahey's cases both in the history and at the time of operation in thirty-nine per cent.

Exploration of the common duct should, of course, be done in all jaundiced patients and those who have been recently jaundiced. Also where the gall bladder is contracted and thickened, showing that the process has been of long standing, and particularly when the duct itself is dilated or thickened. If in palpating the common duct through the foramen of Winslow a lump is found, even though it is not absolutely determined to be a stone, especially if the pancreas is thickened, the duct should be opened to see whether or not it is a stone. Then, too, if the bile when aspirated from the duct, instead of being a clear, golden yellow, is thicker and darker, it is suspicious. At that, one will probably find that in nearly half the cases no stone is found, but relatively little harm will be done by exploration. Certainly not as much as would be done by overlooking stones in the other half of the cases or even a portion of that half

and a secondary operation having to be imposed.

In Walton's series of 843 operations, he found gallstones in the common duct in each eight cases of the 129 cases of jaundice. When the back pressure from an impacted stone is very considerable, the liver ceases to function for the time being and enlarges. This gives rise to the so-called white bile in the greatly distended ducts and of course where the obstruction is more complete from pressure from carcinoma of the duct or at the head of the pancreas, white bile is more common because the obstruction is more continued and complete. The stones which occasionally pass through the common duct or more rarely ulcerate into the duodenum, which is the largest part of the small intestine, are prone to cause intestinal obstruction at the lower end of the ileum. In common with many surgeons, I have operated upon such obstructions. They give a very high mortality—something like fifty per cent on account of the necessity of opening the intestinal tube, the contents of which are highly infected.

In jaundiced cases it is difficult to discriminate between stones in the common duct and cancer at the head of the pancreas. If there is a long history of gallstone dyspepsia with many attacks of colic, which have been attended with jaundice, especially if the jaundice closely follows the colic and if the jaundice is variable, even though sometimes persistent, with enlargement of the liver and the absence of enlarged gall bladder, we think of it in terms of gallstones. On the other hand, if the jaundice is a gray green, unchangeable, sometimes almost a mahogany, with a dilated gall bladder from pressure at the head of the pancreas, great pain in the back, emaciation, and without colics, in an elderly person, it has all the earmarks of carcinoma at the head of the pancreas. Occasionally, a chronic pancreatitis may act like carcinoma with a long history of dyspepsia perhaps due to gallstones, although the colic may be absent. These cases may have distended gall bladder, but it may be dilated with stones and lying so high under an enlarged liver that it is difficult of detection. Such

cases upon exploration are found to have stones and the enlargement is looked upon as malignant, but with drainage those cases clear up and we realize with great joy that they were chronic pancreatitis after all.

In the small contracted gall bladder full of stones, they should be removed and the cystic duct split open, if possible, into the common duct which, in all probability, contains a stone which should be removed and the duct drained after making certain that the entire duct is patulous and open through into the duodenum.

CONCLUSIONS

This study was based on the case histories, examinations, and operative findings of 841 patients with gall-bladder disease (January, 1938). Cholecystectomy alone was performed in 658 cases with a mortality of 5.9 per cent. This includes some gangrenous and perforated gall bladders. In this group of cholecystectomies, 68.7 per cent had gallstones.

FIG. IV

	Cases	Mortality
Cholecystectomies	662	5.8%
Cholecystostomies	87	12.6%
Operations on gall bladder alone.....	749	6.6%
Operations on common duct.....	86	10.4%
All operations on biliary system.....	841	7.3%

In last two years one out of every eleven operative cases has had partial cholecystectomy with no deaths.

Cholecystostomy was done in eighty-seven cases with a mortality of 12.6 per cent. The majority of these patients were in the advanced age group and very poor risks. The relatively low mortality for removal of common duct stones has been mentioned.

Permanently good results were obtained in a series of 426 cases reported by Weir and Snell from the Mayo Clinic in from

eighty to ninety-five per cent of cases. Where symptoms persisted and new ones developed, they were usually found to be due to errors in diagnosis or to poor selection of cases, to residues of cholecystic disease, formation of strictures, and colic following cholecystectomy, that may be due to organic causes and to visceromotor disturbances. Moreover, there may be changes in the bile duct or liver or pancreas from the former cholecystitis with stone. Inasmuch as about twenty per cent of cases had some of these conditions, some of them were sufficient to cause symptoms even after the gall bladder was removed. If there is the misfortune of stones overlooked in the common duct or forming secondarily they cause prolonged drainage of bile or give immediate or even late colic with fever, chills, or jaundice, and if it does not clear up after prolonged observation exploratory operation may be needed even though there is no jaundice. It is a mortifying experience to have to reoperate upon a patient. For that reason, we make it a practice in cases where the common duct is enlarged to explore it wherever possible. As bad as it is to reoperate upon them, it is preferable to having a residual pancreatitis, cholangitis, hepatitis, or cirrhosis of the liver, giving rise to colic. The former is curable. The latter is not.

It is desirable to remove the gall bladder wherever it is surgically feasible because when it is not removed and patients do have secondary operations, they are five times as often after the gall bladder has simply been drained as when it has been removed. In most of them, gallstones have formed. The longer the patient goes, when trouble sets in, with a left-in gall bladder the more prone the patient is to have reformed gallstones.

THE EARLY MANAGEMENT OF TRAUMATIC INJURIES, WITH SPECIAL REFERENCE TO HIGHWAY ACCIDENTS*

BATTLE MALONE II, M.D., Memphis

THE ever-increasing number of automobile accidents, with the resulting injuries, has brought to our attention the importance of this subject. We are amazed when we see statistics on the deaths and injuries caused by automobiles. In the World War the number of Americans killed was 50,510. In an eighteen-month period ending December 31, 1931, 53,650 were killed by automobiles. The annual economic loss from automobile accidents is \$2,500,000,000, more than the entire annual cost of public-school education. Statistics of this nature, however, do not get us into the subject at hand; and since our time is limited, we will discuss only the commoner traumatic injuries which are so often seen.

First, let us consider the treatment of traumatic wounds in general. Every wound not made with surgical intent is a potentially infected wound when the physician first sees it. The chief objects should be to stop hemorrhage, prevent infection, and obtain the smallest possible amount of visible scar.

Since the advent of nonshatterable glass, cleanly incised wounds have become less frequent. Usually there is a varying degree of contusion present also, which requires a debridement removing all non-viable tissue. The usual procedure in the treatment of such a wound is, first, to control hemorrhage with hemostats placed on the bleeding vessels or by the use of a tourniquet when necessary in wounds of the extremities. A piece of sterile gauze is placed over the wound, and an area an inch or more wide around it is thoroughly cleansed with soap and water, using benzine when necessary to remove grease. This region is then painted with a suitable antiseptic. The choice of an antiseptic is of little importance, since the mechanical cleansing, if properly done, produces a comparatively aseptic field around the wound.

Next, this region is anesthetized, using one per cent novocain, injected with a small, sharp needle. Some degree of anesthesia may be obtained in the wound itself by placing in it a piece of gauze saturated with the novocain solution. When the desired anesthesia is obtained, the wound is thoroughly examined, and all dirt and foreign material are removed along with all nonviable tissue. Closure without removal of all devitalized tissue only delays healing and invites infection. This is particularly important when there is a deep lacerated and contused wound in which there is injury to the muscle. All muscle that appears discolored, fails to bleed, or has lost its power of contractility must be removed, leaving only healthy, viable muscle. It is in this type of wound in which we see the dreaded complication, gas gangrene, and the best insurance against this complication is a thorough debridement. If there is a great deal of tissue destruction and the wound is deep, it is often wiser to place Dakin tubes in the wound and leave it open, irrigating the tubes with Dakin's solution for forty-eight to seventy-two hours.

This brings up the question of drainage. In comparatively clean wounds where there is little tissue destruction, drainage is usually unnecessary and inadvisable, particularly in lacerations of the face where the amount of scar formation is of great importance. These should be closed with interrupted fine silk sutures or horsehair, approximating the skin edge with greatest of care. In the deeper wounds where it has been necessary to remove tissue, it is usually best to insert a strip of rubber tissue at one end of the wound to take care of serum formation and to provide an exit for pus, should there be infection present. Interrupted silk sutures are preferred to metal clips in practically all traumatic wounds, because the skin is often difficult to approximate, and sutures will hold the edges more firmly together.

*Read before the Five-County Medical Society, Hohenwald, July 27, 1937.

Elaborate equipment is not necessary for

such surgical procedures. Sterile linen drapes may be used when available, but a sterilized five-yard roll of gauze which may be purchased at any drugstore, cut in the desired lengths, may be used around the wound to provide a sterile field. A strip of an old rubber glove sterilized serves as an adequate drain, and ordinary silk sewing thread is all that is necessary in most cases. A supply of one per cent novocain should always be kept available.

A. T. S. should be given in all cases which have come in contact with the highway or ground. Time does not permit a discussion of the use of A. T. S. mixed with gas bacillus antitoxin, but we have seen gas gangrene frequently develop after a prophylactic dose of the serum.

Dressings should not be changed more frequently than is necessary, as this process serves only to disturb the healing process. When a drain is left in the wound, this should be removed at the end of twenty-four or forty-eight hours; and unless there is infection present, no further dressings should be required until the removal of stitches.

Next, let us consider the early treatment of fractures. The chief object in the treatment is to relieve pain and shock and avoid added displacement and trauma. For fractures of the extremities a Thomas splint is best for temporary use or for transportation. Reduction should be made before edema and swelling occur, and the traction afforded by the Thomas splint will prevent further displacement of the fracture and the added trauma brought about at the site of fracture when the patient is moved. If such a splint is not available, the extremity may be placed on a well-padded board reaching from the foot to the hip joint and another padded board placed at the outer side extending from the foot to the axilla. A third board may be applied along the inner side of the thigh and leg. With the more severe fractures, there are varying degrees of shock present. When the injury occurs in a place some distance from a hospital, transportation should not be attempted until the primary shock has been overcome.

Early treatment of compound fractures consists of splinting the limb with a Thomas

splint if available, the application of sterile gauze dressings to the wound, and the usual treatment for shock. If there is excessive bleeding, a tourniquet is placed above the wound. The patient is then transported to the hospital, where a debridement is done and reduction and immobilization carried out with skeletal traction or the application of a cast.

Injuries to the Spine.—Any patient with an injury to the spine should, if possible, be examined at the site of the accident before he is moved to see if there is injury to the spinal cord. Extreme care should be exercised in moving such a patient, and he should be placed on his abdomen with a pillow under his chest to keep the spine in extension, since flexion might produce an injury to the cord if one is not already present. After arriving at the hospital, shock, if present, should be treated before X-ray pictures are made.

Cases of fractured pelvis should be transported with great care. A frequent complication of this injury is a torn urethra or ruptured bladder. A soft rubber catheter should be passed into the bladder if possible and allowed to remain there if blood is found in the urine, since this indicates an injury to the bladder or urethra.

One of the most frequent injuries seen today in highway accidents is the head injury. The presence or absence of a skull fracture is relatively unimportant as compared with the cerebral injury. The type of injury may vary with the type of force producing it—i.e., a force of great mass and moderate velocity may produce generalized scattered areas of contusion; while a force of small mass and great velocity, such as a golf ball, may produce a circumscribed depressed fracture with a single underlying area of contusion. The symptoms produced by any head injury vary with the effect produced on the brain. Where there is sufficient force to jar the brain, producing a short period of unconsciousness with spontaneous recovery, the condition is designated by the term concussion. Here there is no microscopic or gross evidence of changes in the brain. The unconsciousness is thought to be due to a molecular disturbance in the cells. As a result of a harder

blow, there may be a contusion of the brain, and the period of unconsciousness is more prolonged; abnormal reflexes are common, and there may be disorientation and mild confusion. The intracranial pressure is elevated, and cerebral edema is present. A period of surgical shock is often present immediately following the injury.

In the more severe injuries there is a laceration of the brain, resulting in deep coma with general muscular flaccidity including the sphincters. The respiration is irregular, pulse slow, blood pressure elevated, due to a stimulation of the medullary centers, and the cerebrospinal fluid at first is red with blood, changing later to a yellowish color.

In minor head injuries dehydration and rest comprise the necessary treatment. Where there is a laceration of the scalp with no skull fracture, thorough mechanical cleansing, after clipping the hair, should be carried out, followed by debridement and closure of the wound with interrupted silk sutures usually without drainage. If a depressed fracture is found on examination, a sterile gauze compress should be applied and the patient carried to an institution where the necessary equipment can be had to treat the condition.

There is some dispute among authorities in regard to the treatment of the more severe brain injuries not associated with a depressed fracture. All agree, however, that X-ray pictures and extensive neurological examinations should not be made until the patient has recovered from the primary shock, which is treated by rest, external heat, and the use of coramine or metrazol. The use of fifty per cent glucose intravenously, according to some authorities, should be withheld until the primary shock has been overcome, but it is our belief that this is an aid in overcoming the shock, and it certainly reduces the brain volume through dehydration. This may be repeated every six hours if necessary. One ounce of magnesium sulphate by mouth or two to four ounces by rectum further aid in the dehydration. The use of lumbar puncture has caused a considerable amount of dispute in the treatment of head injuries. It certainly should not be done while the patient is in primary shock. Sachs considers it a dan-

gerous and unnecessary procedure, while Munro, of Boston, uses it freely and repeatedly and believes it is the most effective method of reducing his mortality figure in head injuries. Restlessness should be controlled by the use of chloral hydrate and bromides given by rectum or sodium luminal hypodermically. Morphine should never be given to cases of head injury, since it depresses the respiration.

Hemorrhage from a ruptured middle meningeal artery of course requires early operation in competent hands. This condition manifests itself some time following an injury and begins as a unilateral facial paralysis progressively involving that side of the body.

SUMMARY

1. The treatment of traumatic wounds should be carried out with the purpose of checking hemorrhage, preventing infection, and obtaining a minimal scar formation. Mechanical cleansing and debridement are the two most important procedures. Elaborate equipment is unnecessary.

2. The early treatment of all fractures should be directed toward minimizing shock and preventing further displacement by the proper use of splints. Cases of fractured spine should never be placed in a flexed position.

3. Injuries to the head are best treated by dehydration and judiciously used lumbar punctures. Morphine should never be given. Progressive hemorrhage following trauma requires surgical interference.

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H. H. SHOULDERS, M.D., Editor and Secretary

APRIL, 1939

THE ISSUE

SHALL PATIENTS AND DOCTORS RETAIN THEIR FREEDOM OF JUDGMENT IN THE MATTER OF MEDICAL CARE, OR SHALL THIS FREEDOM BE SURRENDERED TO SOME GOVERNMENTAL AGENCY?

EDITORIAL

CONCERNING THE LICENSING OF PHYSICIANS WHO ARE NOT CITIZENS OF THE UNITED STATES

The following appeared in a special bulletin issued by the Legislative Bureau of the Medical Society of the State of New York under date of February 20, 1939.

We believe this information is of great interest to our readers.

SPECIAL BULLETIN

In Bulletin No. 5 of February 13 we announced that there had been introduced in the assembly a bill, Int. 801, by Mr. L. A. Lawrence, requiring full citizenship of applicants for licensure to practice medicine, dentistry, pharmacy, engineering, as an architect, certified public accountant, and public shorthand reporter.

Our particular interest in this lies in the first section, which will require full citizenship of those who apply for licensure to practice medicine. The bill also requires that those who have taken out their first

papers must complete them within seven years or have their licenses rescinded.

The need for legislation of this character as a protection for the young people of our state who desire to enter medicine is apparent from the following figures: In 1938, 419 graduates of our nine medical schools were licensed to practice in this state. In that same year, 431 were licensed to practice who were graduates of schools in other states, and 556 who were graduates of foreign schools. In other words, more than twice as many graduates of schools outside of the state were licensed to practice in this state as were licensed from our own medical schools. This unfavorable situation has been developing for a number of years, but what makes it of immediate importance is that it is growing worse with no immediate relief apparent. The Department of Education informs us that the number of applicants for the next examination surpasses any of the previous examinations.

A statement of the persons licensed in the years 1930 to 1938, inclusive, follows:

Year Ending June 30	Graduates of New York Schools	Graduates of Schools in Other States	Graduates of Foreign Schools
1930-----	519	370	250
1931-----	596	371	172
1932-----	411	342	168
1933-----	424	337	156
1934-----	483	370	233
1935-----	532	364	323
1936-----	476	326	408
1937-----	489	339	641
1938-----	419	431	556
Total....	4349	3250	2907

Many other states have laws on their statute books or regulations which require full citizenship already. As a matter of fact, only four other states are as liberal as New York. Ten states require absolute citizenship before licenses will be granted. The other thirty-three states require foreign applicants to take some special preparation, as, for instance, additional education or one year internship, etc., before they are admitted to examinations.

According to information compiled by the Council on Medical Education and Hospitals of the American Medical Association

in 1933, only five European countries would accept American licenses for endorsement without examination. Ten other countries would recognize titles and licenses secured in America provided the applicant took certain examinations. In four of these countries it would be necessary for him to repeat a part or all of his medical course and take the regular University examinations. In nine others absolute citizenship was required before examination for licensure could be taken; and in the country, namely, Poland, "physicians of foreign nationality, even though holding Polish diplomas, are not allowed to practice medicine in Poland."

A recent study of the number and distribution of physicians in New York State shows that there is a very high concentration of physicians in this state already; and with our nine medical schools filled with students, there would seem to be no reason why the state should encourage graduates of institutions in other states and countries to locate and practice here. Our special concern should be to provide suitable conditions for our recent graduates to enter the profession.

We hope this bill will be enacted into law.

JAMES H. BORRELL,
B. WALLACE HAMILTON,
JOHN L. BAUER,
Committee on Legislation.

THE WAGNER BILL

Senate Bill 1620 was introduced by Senator Wagner, of New York, on February 28, 1939. It is referred to as the "National Health Act of 1939." In reality, this bill is an amendment to the Social Security Act. Its caption reads as follows: "To provide for the general welfare by enabling the several states to make more adequate provision for public health, prevention, and control of disease, maternal and child health services, construction and maintenance of needed hospitals and health centers, care of the sick, disability insurance, and training of personnel; to amend the Social Security Act; and for other purposes."

This bill covers more than forty-seven pages of printed matter.

It is obviously impossible to make a com-

plete analysis of its provisions in a brief editorial.

Part I of the bill relates to Maternal and Child Health Services.

An appropriation of \$8,000,000 is made for the fiscal year ending June 30, 1940; \$20,000,000 for the fiscal year ending June 30, 1941; \$35,000,000 for the fiscal year ending June 30, 1942.

The following significant paragraph occurs under Section 501: "The sums authorized under this section shall be used for making payments to states which have submitted, and had approved by the chief of the Children's Bureau, state plans for extending and improving such services."

The following is another significant paragraph: "The amounts of the allotments to the states shall be determined in accordance with rules and regulations prescribed by the chief of the Children's Bureau with the approval of the Secretary of Labor."

The following statement also occurs in Section 505: "Whenever the chief of the Children's Bureau finds, after reasonable notice and opportunity for hearing to the state agency administering or supervising the administration of a plan approved under Part I of this title, that in the administration of such plan there is failure to comply substantially with any requirement of subsection 503 (a), he shall notify such state agency that further payments will not be made to the state until he is satisfied that there is no longer any such failure to comply. Until he is so satisfied he shall make no further certification to the Secretary of the Treasury with respect to such state."

Another significant paragraph under Section 507: "The chief of the Children's Bureau, with the approval of the Secretary of Labor, shall make and publish such rules and regulations not inconsistent with this part of this title as may be necessary to the efficient administration of this part of this title."

Part 2 relates to Medical Services for Children and Services for Crippled and Other Physically Handicapped Children.

The sum of \$13,000,000 is appropriated for the fiscal year ending June 30, 1940, and

increased to \$35,000,000 for the fiscal year ending June 30, 1942.

These allotments to states are governed by the Children's Bureau under the same powers as are conferred by paragraphs previously quoted.

Title VI relates to Public Health Work and Investigations. Under this title the sum of \$15,000,000 is appropriated for the fiscal year ending June 30, 1940. It is increased to \$60,000,000 for the fiscal year ending June 30, 1942.

The following paragraph is significant: "Section 602 (a)—The surgeon general of the Public Health Service shall allot to the states prior to the beginning of each fiscal year, and at such time or times thereafter as may be necessary, the sums appropriated pursuant to Section 601 for such year, and the sums available for allotment under subsection (b) of this section. The amounts of the allotments to the states shall be determined in accordance with rules and regulations prescribed by the surgeon general of the Public Health Service with the approval of the Secretary of the Treasury."

Title XII relates to Grants to States for Hospitals and Health Centers.

The sum of \$8,000,000 is appropriated for the fiscal year ending June 30, 1940. It is increased to \$50,000,000 for the fiscal year ending June 30, 1941.

The following paragraph is significant: "The sums authorized under this section shall be used for making payments to states which have submitted, and had approved by the surgeon general of the Public Health Service, state plans for constructing and improving needed hospitals."

Title XIII concerns Grants to States for Medical Care. All the administration of this portion of the act is placed under the Social Security Board. It authorizes an appropriation of \$35,000,000 for the fiscal year ending June 30, 1940. The following paragraph is significant:

"The sums authorized under this section shall be used for making payments to states which have submitted, and had approved by the Social Security Board (hereinafter called the 'Board'), state plans for extending and improving medical care."

The quotations above cited indicate something of the powers vested in federal agencies situated in Washington.

If there ever was any doubt in the minds of any one as to the desire on the part of a number of agents in Washington for almost limitless powers over states and individuals, the provisions of this act should be sufficient to remove the doubt.

Those who desire to establish communism in America, of course, can boldly propose a bill providing for just that end. Another way would be to establish a political organization under the complete domination of some central agency or agencies and then accomplish the communization by degrees.

It is worth remembering that a famous Russian leader in the communistic movement in Russia suggested that communism be established in the United States by degrees.

It is necessary to look at this legislation from another point of view. This is in regard to the possible pressure which might be exerted on state legislatures to adopt a measure prescribed by the agency in Washington.

A bill has already been introduced in the New York legislature by Mr. Aaron Goldstein which in effect provides for the establishment of a communistic form of medical practice in the state of New York.

It has also been suggested that the state of New York would appropriate one dollar for each two dollars obtained from the federal government. By such means the state legislatures and the citizens are persuaded to believe that they are getting something for nothing.

ACTS OF THE LEGISLATURE OF INTEREST TO THE MEDICAL PROFESSION

Several bills were introduced in the last legislature of interest to the medical profession—much of which it was necessary to oppose. Some of it was sponsored by the medical profession.

One of the acts sponsored by the medical profession relates to the administration of funds intended for medical care.

As we have attempted to point out from time to time, a public health function is

one thing and individual health function is another thing. Medical care and public health are two different subjects.

It is unfair to the public health departments to expect them to be efficient in the administration of public health measures and at the same time administer funds for medical care.

The personnel of public health departments are supposed to be specialists in their field. In our opinion, most of them are not anxious to have charge of the administration of money designed for medical care. Undoubtedly, some of them are anxious for such power because of the tremendous amount of patronage that would attach to the department.

A bill was introduced and passed providing for the creation of a medical care division under the State Board of Health and the Commissioner of Health for the administration of all funds designed for medical care.

As a result of this act, an administrator who is acquainted with the problems of medical care may be appointed by the governor.

We naturally are opposed to the introduction of a communistic form of medical practice introduced in the United States through the door of public health departments. We are not opposed to the use of tax money for medical care when administered on the proper basis.

DEATHS

DR. JOHN FREY BINKLEY

Dr. John Frey Binkley, West Palm Beach, Florida, died on March 22. Dr. Binkley took his internship in St. Thomas Hospital, Nashville, before the World War, and was located at the Protestant Hospital later. He practiced in Nashville for sometime and then located in Florida.

DR. LUTHER EDWARDS

Dr. Luther Edwards, Finley; Memphis Hospital Medical College, 1906; aged fifty-nine; died March 31, 1939.

RESOLUTIONS

IN MEMORIAM

DR. CLAUDE P. FOX

The medical profession of Greene County and the members of the Tennessee Medical Association deeply deplore the death of one of our most loyal members, Dr. Claude Porterfield Fox.

This, our friend, has passed beyond our vision, but he will continue to live in our memory.

"Time, like an ever-rolling stream,

Bears all its sons away;

They fly forgotten, as a dream

Dies at the opening day.

Our God our help in ages past,

Our hope for years to come,

Be thou our guard while life shall last,

And our eternal home."

Whereas, this society has lost one of its best friends, whose passing is deemed a great loss. He was an active member of this society from the date of its charter. He exemplified a tenacity of purpose that never wavered. He was ethical and fair to the medical profession. He upheld its ethics and obligations of memberships, being an accomplished gentleman, a scholar, an able physician, a ready consultant and an eminent surgeon.

Therefore Be It Resolved, That while in death of Dr. Fox his family has sustained an irreparable loss, being loyal and true to his domestic obligations, yet they have the happy reflections of the many kind deeds which was his nature.

Be It Further Resolved, That these resolutions be entered upon the minutes of the Greene County Medical Society, and a copy be sent to his bereaved family with the deepest sympathy from this society, also a copy to the JOURNAL OF THE TENNESSEE STATE MEDICAL ASSOCIATION.

DR. L. E. DYER,

DR. M. A. BLANTON,

DR. W. T. MATHES,

Committee.

Be It Resolved, That the Dyer, Lake, and Crockett Counties Medical Society in regular session April 5, 1939, deeply regrets the death of a charter member, Dr. Luther Edwards, Finley, Tennessee, on March 31, 1939, of a malignancy at the age of fifty-nine.

Be It Further Resolved, That the society extends to his wife and other family connections our sympathy and condolence; and

Be It Further Resolved, That a copy of this resolution be sent to his wife, the local press, secretary and editor of THE TENNESSEE STATE MEDICAL ASSOCIATION, and spread on the records of this society.

(Signed) DR. J. PAUL BAIRD,
DR. W. P. WATSON,
DR. C. L. DENTON.

NEWS NOTES AND COMMENTS

CHANGES OF ADDRESS

Dr. E. H. Magee, Chattanooga to Unionville, Missouri.

Dr. John B. Nucholls, Jackson, to 563 Capitol, Atlanta, Georgia.

Dr. J. M. Parris, Jr., Covington, to 5514 Blackstone Avenue, Chicago, Illinois.

Dr. F. L. Votaw, Kingsport, to Apartment 104, 3520 Hanover Avenue, Richmond, Virginia.

Dr. B. H. Warren, Nashville, to Gallatin.

The postgraduate course in pediatrics in the centers of Bolivar, Brownsville, Jackson, Covington, and Selmer is receiving warm praise from the doctors taking the course because of the practical points included by the instructor, Dr. Thompson. One of these writes, "We are well pleased with him—he is doing an excellent job for the general practitioner . . . please understand that I am giving you, not only my reaction, but that of several with whom I have talked."

The second circuit is now being organized with centers proposed for Columbia, Lawrenceburg, Fayetteville, Pulaski, and Franklin. Each center will be visited once each week for ten weeks and Dr. Thompson will

present didactic material supplemented by lantern slides, motion pictures, and clinical demonstrations. An enrollment fee of \$10.00 covers the cost of the course and at the last lecture each doctor enrolled will receive a neatly printed and bound manual of the lectures presented without cost.

On December 20, 1938, Dr. W. L. Williamson was appointed professor of gynecology and head of the department in the University of Tennessee, College of Medicine, at Memphis following the death of Dr. W. T. Black. Dr. Williamson had been connected with the department in the capacity of associate professor for some years.

He has been quite active in the ranks of organized medicine ever since he began practice, and has many friends not only in Memphis, but over the entire state as well. He served six years as trustee of the State Association and in 1936 was elected president of that body. No president has been more active in performing the duties of that office than Dr. Williamson. He has been a guiding hand in the affairs of the Memphis and Shelby County Medical Society for years, and served as its president in 1934. His tenure of office was marked by the energy, diligence, and application to all matters that came to his hands so characteristic of the man. He is general chairman of the Committee on Arrangements for entertaining the Southern Medical Association in Memphis next November.

That he brings this same assiduousness to his new position is accepted by all who know him. He is well qualified for the place in every way as one competent in his work, as an executive, and as a teacher.

We congratulate Dr. Williamson upon the bestowal of this deserved honor on him, and we congratulate the university upon the wisdom of the selection they have made in choosing him for this important post.

DR. ALBERT SZENT-GYÖRGYI LECTURES AT VANDERBILT

Dr. Albert Szent-Györgyi, director of the Institute for Medical Chemistry and professor of medical chemistry at the Royal Hungarian Franz Joseph University at

Szeged, Hungary, and winner of the 1937 Nobel prize in physiology and medicine, is the Abraham Flexner lecturer at the Vanderbilt Medical School this year, having arrived at the school March 4 for a two-month period.

Dr. Szent-Györgyi has visited the United States twice, first about 1930 as a guest of the Mayo Clinic, and in 1935 he returned as a visiting lecturer at Harvard University Medical School.

He has been an active contributor to scientific literature for about twenty years. In his earlier studies he was interested in physicochemical problems in biology, such as the phenomena of agglutination, cataphoresis, and the effect of electrolytes on albumin, and such biochemical problems as the estimation of free fatty acids in blood.

In 1932 he was able to identify vitamin C, the antiscorbutic acid responsible for the elimination and prevention of the condition known as "scurvy," by the use of hexuronic acid (ascorbic acid) derived from adrenal cortex and from cabbage. In 1933 he prepared large quantities of ascorbic acid from paprika, and obtained a crystalline monoacetone derivative. He has also been interested in the widespread subclinical vitamin C deficiency in man.

Dr. Szent-Györgyi delivered the following lectures during March: "General Principles of Biological Oxidation," "Respiration of Muscle," "Fermentation and Some Problems of Intermediary Metabolism," "Vegetable Respiration," and "On Vitamins, Health, and Disease." During April he will remain at the Medical School as visiting professor of biochemistry.

The Abraham Flexner Lectureship was established in 1927 by the brother of Abraham Flexner, Bernard Flexner, who wrote to the chancellor in establishing the endowment: "It is in my mind to set aside certain securities for the medical department of Vanderbilt University. I would like these securities to be held in trust as the 'Abraham Flexner Lectureship,' the accumulated income to be used at intervals of two years or more as an honorarium to be given to some American or foreigner highly distin-

guished in the field of the medical sciences, the lecturer to be in residence for the purpose of contact with faculty and students during a period of approximately two months, and to give a series of lectures, the number and character of which shall be determined by the lecturer himself and the university."

Drs. John W. Ragsdale and Chester D. Allen announce the removal of their offices from 327 Medical Arts Building to 1019 Madison Avenue, Memphis. Practice limited to urology and urological surgery.

Drs. W. A. Bryan, O. N. Bryan, Hollis Johnson, Chas. C. Trabue, and David Strayhorn announce the removal of their offices from the Medical Arts Building to 2122 West End Avenue, Nashville, after April 20.

WOMAN'S AUXILIARY

President.....Mrs. H. E. Christenberry
Knoxville
President-elect.....Mrs. Matt Murfree
Murfreesboro
Press and Publicity.....Mrs. Frank Fessey
Nashville

April has been designated as "Cancer Control Month." Mrs. Rogers N. Herbert has again been appointed to serve as State Commander of the Woman's Field Army. Let us all put our shoulders to the wheel and make this the best year since this grand movement was born. It is a most worthwhile undertaking and merits the serious consideration of every thinking man and woman.

We lament the recent passing of Dr. John Frey Binkley. Prior to his removal to Florida several years ago, Dr. Binkley was for twelve years outstanding in the work of the Nashville city schools. To Mrs. Binkley and her children we extend our deepest sympathy.

DAVIDSON COUNTY

The monthly meeting of the Woman's Auxiliary to the Nashville Academy of Medicine and the Davidson County Medical

Society took place Friday, March 31, at the home of Mrs. W. Frank Fessey. Associate hostesses were Mrs. B. F. Byrd, Mrs. W. R. Cate, Mrs. Fowler Hollabaugh, Mrs. Oscar Nelson, and Mrs. P. G. Morrissey. Preceding luncheon a delightful musical program was enjoyed.

The business session was presided over by the president, Mrs. J. Travenick, Jr. It was voted to subscribe to the Cancer Control Drive. Also delegates and alternates to the State Convention to be held in Jackson April 11 and 12 were elected.

RUTHERFORD COUNTY

The Woman's Auxiliary to Stones River Academy of Medicine held its regular monthly meeting Friday, March 17, at the Woman's Club with Mrs. J. R. Gott as hostess. At the business session, presided over by the president, Mrs. M. B. McCrary, a nominating committee was appointed and reports from convention committees were heard. It was voted to give the sum of fifteen dollars to the antituberculosis work in Rutherford County and ten dollars to the work in Cannon County.

Mrs. Sanford, as program chairman, introduced Miss Mary Hall as the speaker of the afternoon. In a talk on syphilis Miss Hall described the disease as "the most contagious, most expensive, and most common." She also said that the three methods of combatting it was to "find, treat, and teach."

LINCOLN COUNTY

On Wednesday, March 1, Mrs. K. P. Brown was hostess to the Lincoln County Medical Auxiliary at the home of Mrs. J. M. McWilliams. Eleven members answered to roll call and plans were discussed for the ensuing year.

The president, Mrs. R. T. Odum, gave a most interesting paper on the subject, "Will Medicine Be Socialized?" which is very timely and led to thoughtful discussions. The hostess served delightful afternoon refreshments and the club adjourned to meet the first Wednesday in April with Mrs. Cannon.

MEDICAL SOCIETIES

Davidson County:

March 14—"Intussusception in the Infant," by Dr. P. C. Elliott. "Intussusception in the Adult," by Dr. Cleo Miller. Discussion by Dr. Thos. G. Pollard.

March 21—"Results of Experience with Actinomycotic Infections in the University of Michigan Hospital for the Past Ten Years with Special Bearing on Its Etiology," by Dr. Jeff Davis. Discussion by Dr. C. M. Hamilton.

"Abdominal Symptoms Not Due to Abdominal Disease," by Dr. W. H. Witt. Discussed by Drs. Richard Barr and John Youmans.

March 28—"Extrophy of the Bladder," by Dr. Henry L. Douglas. Discussed by Dr. J. C. Pennington.

"Results of Fever Therapy at Vanderbilt Hospital," by Dr. Robert Williams. Discussed by Dr. E. M. Regen.

April 4—"Future of American Medicine," by Dr. Morris Fishbein, editor of the *Journal of the American Medical Association*, Chicago, Illinois.

Dyer, Lake, and Crockett Counties:

The Dyer, Lake, and Crockett Counties Medical Society met in regular monthly session. Scientific program:

"Fractures of the Humerus Including the Shoulder Joint," by Dr. E. J. Lipscomb, Memphis.

"Precordial Pain," by Dr. A. F. Cooper, Memphis.

"The Acute Abdomen," by Dr. E. G. Kelly, Memphis.

(Signed) C. L. DENTON, Secy.

Greene County:

The annual joint meeting of the Greene County Medical and Greene County Dental Societies was held at the Andrew Johnson Clubhouse Tuesday, April 4.

Dr. I. E. Broyles read a paper on "The Value of a Tooth."

Dr. C. B. Laughlin read a paper on "Sound Teeth."

The following physicians and dentists were present: Drs. W. T. Mathes, H. B. Anderson, M. A. Blanton, R. S. Cowles, L. E. Dyer, R. B. Gibson, H. W. Fox, I. E. Phillips, C. B. Laughlin, J. C. McGuffin, G. F. Mathes, I. E. Broyles, E. I. White, Frank G. Yost, and J. C. Self.

I. E. PHILLIPS, *Secretary*,
Greene County Medical Society.

Hamilton County:

March 16—"Pruritus Ani," by Dr. Gene H. Kistler.

March 23—"Meniere's Disease," by Dr. Douglas Chamberlain. Case reports by Dr. D. Isbell.

March 30—"Preanesthetic Medication," by Dr. H. Ausherman.

April 6—"Stab Wounds of the Diaphragm," by Dr. J. Alex Steward.

April 13—No meeting on account of the Tennessee State Medical Association meeting in Jackson.

Papers scheduled to be read:

April 20—"Chronic Ulcerative Colitis," by Dr. Tim J. Manson.

April 27—"Cancer of the Breast," by Dr. J. A. Reynolds.

May 4—"Pyloric Stenosis," by Dr. H. J. Starr.

"Some Don'ts in Medicine," by Dr. H. P. Hewitt.

May 11—"Diagnosis and Treatment of Asthma," by Dr. T. C. Crowell.

Hardin, Lawrence, Lewis, Perry, and Wayne Counties:

The Five-County Medical Society met in Linden on March 28. The following papers were read:

"Menopause," by Dr. John C. Pearce, Jackson.

"Bronchopneumonia," by Dr. W. E. Turner, Lobelville.

"Conservative Treatment of Sinus Disease," by Dr. Sam T. Parker, Jackson.

"Leukorrhea," by Dr. Glenn D. Batten, Jackson.

The next meeting will be held in Savannah on April 25.

Knox County:

March 14—"Pneumothorax," by Dr. Rufus Smith. Discussion by Drs. Carmichael and Acuff.

March 21—"The Treatment of Relative Sterilization," by Dr. Harry Jenkins. Discussed by Drs. Stone, McIlwaine, and McCarter.

March 28—"Infections of the Kidney," by Dr. Tom R. Barry. Discussion by Drs. Kyle Copenhaver and Bruce Powers.

OTHER MEDICAL SOCIETIES

The Tennessee Valley Postgraduate Medical Assembly has issued its fifth annual invitation to the profession. The meeting will be held in Knoxville, June 28, 29, 30. The guest speakers include the leaders in medicine from all over the eastern half of the United States. Full programs will be mailed at a later date. Those desiring advance information on the meeting should write Dr. Jesse Hill, Secretary, Doctors Building, Knoxville.

The first American Congress on Obstetrics and Gynecology is to be held in Cleveland, Ohio, September 11-15, 1939.

Doctors, nurses, hospital administrators, and public health workers will meet and discuss their mutual problems and correlate their many ideas.

Already more than 1,400 advance registrations have been received.

Further information can be obtained from the headquarters at The Annex, 650 Rush Street, Chicago, Dr. Fred L. Adair general chairman.

The International Association for Prevention of Blindness, which maintains a secretariat in Paris, will hold its next annual meeting in London on Wednesday, April 19, 1939.

The principal topic for discussion will be "The Application of the Crede Method for Prevention of Blindness in Various Countries."

America will be represented by Dr. Harry S. Gradle of Chicago, vice-president

of the Illinois Society for the Prevention of Blindness, and Dr. Park Lewis of Buffalo, vice-president of both the International Association and the American National Society.

The sixty-third annual convention of the American Association on Mental Defect will be held at the Palmer House in Chicago, Illinois, from May 3 to 6, inclusive.

The forty-fourth annual convention of the American Academy of Ophthalmology and Otolaryngology will be held in Chicago, October 8-13, 1939, at the Palmer House.

Dr. George M. Coats, Philadelphia, is president, and Dr. Albert Snell, Rochester, New York, is president-elect.

The Middle Tennessee Medical Association will hold its next meeting in Columbia, May 25 and 26. A good program is being prepared and the Columbia profession is doing its part to make the meeting a success.

ABSTRACTS OF CURRENT LITERATURE

ANESTHESIA

By HUGH BARR, M.D.
Medical Arts Building, Nashville

The Use of Helium in Anesthesia. Eversole. Journal of American Medical Association, March 19, 1938.

The basis for its clinical use is due entirely to its low specific gravity and to its rapid diffusion. When mixed with oxygen twenty-one per cent it can be used to combat certain respiratory difficulties encountered during anesthesia. These difficulties arise from stridor, mechanical obstruction, and muscular weakness during spinal anesthesia.

In a series of cases complicated by stridor complete relief was obtained—61.5 per cent, partial in 33.3 per cent, and no relief in 5.1 per cent. In cases of both stridor and obstruction 53.9 per cent obtained relief, 30.7 per cent partial, and 15.4 per cent none.

In five cases of partial respiratory paralysis during spinal anesthesia breathing became freer with a mixture of helium and oxygen than could be obtained with oxygen alone. Helium is also valuable in cyclopropane anesthesia to increase the volume of inert gases to prevent massive collapse of lungs. It is also great in thyroidectomies for re-

spiratory obstruction during the operative procedure and postoperatively until a tracheotomy can be performed.

DERMATOLOGY

By E. E. BROWN, M.D.
Doctors Building, Nashville

Chrysocyanosis: Cutaneous Pigmentation After Injection of Gold Salts. F. Cardis and M. Conte. Ann. de dermat. et syph. 7: 229 (March), 1936; Archives of Dermatology and Syphilology (March, 1939).

Cardis and Conte consider chrysocyanosis a new disease characterized by uniform and persistent pigmentation on the exposed surfaces due to the deposition of gold in the skin. The series they studied consisted of thirty-four patients under treatment for tuberculosis with injections of gold salts. In most cases the pigmentation appeared two or three years after gold therapy. It is described as beginning usually around the eyes and on the lids, spreading later over the forehead, stopping at the hairline; in some patients it involves the forearms and the backs of the hands, but it is usually limited to the face. This masklike pigmentation is accompanied by no symptoms, being only a cosmetic defect. It may be confused with argyria, but the latter condition has a distinct gray tint which should make the differentiation easy. Histologic study shows the deposit of grains of metallic gold in the skin, blood vessels, and lymphatic vessels. There is no known treatment for the condition.

OBSTETRICS AND GYNECOLOGY

By HAMILTON V. GAYDEN, M.D.
Suite 234 Doctors Building, Nashville

The Manchester (Parametrial Fixation) Operation for Cure of Prolapse and Cystocele. M. L. Leventhal and L. D. Boshes. American Journal of Obstetrics and Gynecology, March 1939, Vol. 37, p. 384.

The variety of operative procedures used in curing uterine prolapse is testimony to the fact that for many years no one method applicable to the great majority of cases has been developed. The choice of operation has usually been determined by the age, parity, and social status of the patient. Vaginal, abdominal, or a combination of the two methods of surgical approach have been utilized with varying degrees of success.

In recent years the staff at the Michael Reese Hospital has utilized the Manchester operation as the procedure offering the best results in the greatest number of cases. Between December 15, 1935, and January 1, 1938, there were fifty-one Manchester operations performed at the Michael Reese Hospital by seven operators. The chief primary indication for the performance of the Manchester

operation was prolapse of the uterus. In the series of fifty-one patients the primary indication for performing the Manchester operation was uterine prolapse in approximately four-fifths of the cases (forty-one or 80.4 per cent).

A modification of the original Manchester technique is described. The operation does not preclude future pregnancy and labor. The morbidity was low and was usually confined to urinary tract infection. There was no mortality.

A cure of 97.9 per cent in prolapse by use of this operation definitely establishes its superiority over other methods of operative treatment. The technique is readily acquired and is both anatomically and physiologically sound.

The Manchester operation is the best method of treatment for prolapse and cystocele in the large majority of patients, young or old.

OPHTHALMOLOGY

By ROBERT J. WARNER, M.D.
Doctors Building, Nashville

Ocular Manifestations of Malignant Endocarditis. P. Bonnet and G. Bonamour. *Archives of Ophthalmology*, March, 1939.

Bonnet and Bonamour state that malignant endocarditis of slow evolution, appearing as a preliminary septicemia grafted on old valvular lesions, can manifest itself in exceptional cases by a sudden dramatic visual disturbance, a unilateral amaurosis caused by embolism of the central artery of the retina. During the evolution of malignant endocarditis, when attention is not called to the eye by any functional trouble the systematic examination of the fundus reveals in forty per cent of the cases retinal changes which are of great value in the diagnosis of the disease. The retinitis of Roth—clearly outlined hemorrhages, roundish or oval and of navicular form, with white centers and white spots without hemorrhage—seemingly represents the most characteristic change in the chronic form of malignant endocarditis of slow evolution. These hemorrhages appear rapidly in several hours, becoming obliterated and reappearing in other places. They are probably the foci of necrosis limited to the retina at the level of the microbic colonies disseminated by the blood stream in the layer of the nerve fibers. More massive hemorrhages with white central foci may also be observed in front of the vessels in a diffuse edematous process of the retina. It is not exceptional to observe forms which by their association with the changes in the uveal tract and their inflammatory character permit septic retinitis to be considered as an attenuated form of metastatic ophthalmia.

The observation of retinal changes remains, although less than was formerly asserted by Litten,

a sign of an unfavorable prognosis, quite often the indication of an early fatal outcome.

PEDIATRICS

By JOHN M. LEE, M.D.
Doctors Building, Nashville

Differential Diagnosis of Nonrheumatic "Growing Pains" and Subacute Rheumatic Fever. M. J. Shapiro, M.D., Minneapolis, Minnesota. *The Journal of Pediatrics*, 14: 315 (March), 1939.

In the literature there is a diversity of opinion as to the relation of so-called growing pains in children and rheumatic infection. Some would infer that in all cases this is a symptom of rheumatism, while others agree with the belief of the author that certain children show this symptom as a result of rheumatic infection, while others have a similar complaint from nonrheumatic causes. After considerable study of the histories of children with this symptom attending a heart clinic and others who over a period of years of observation have this symptom and no other manifestation of rheumatic infection, the author believes that in a majority of cases growing pains are nonrheumatic.

From a careful history some cases can be properly classified as rheumatic or nonrheumatic, while others cannot be readily classified except after a period of observation. From his observations the author has developed certain differential diagnostic points that have been useful in properly diagnosing these patients.

Nonrheumatic pains appear early in childhood and may continue through adolescence. They occur at the end of the day and especially at night, often awakening the child several times; pains are usually gone in the morning and usually do not occur in the day. The pain is most commonly in the muscles of the legs and thighs—rarely in the muscles of the upper extremities. There is usually no sign of rheumatism elsewhere and no family history of rheumatic fever. The sedimentation rate, leucocyte count, and hemoglobin are normal.

Subacute rheumatic fever pains appear most commonly between six and seven years of age, often following upper respiratory infections or other infectious diseases. The pain is present on first getting out of bed in the morning, during the entire day, aggravated by motion, may cause limp, and patient feels better when warmed in bed. The pain is in the joints of upper and lower extremities. There is a history of repeated bouts of joint pains, nosebleeds, characteristic skin rash, pallor, fever, etc. Joints often have slight increased local heat and mild swelling that may be overlooked by parents. There is commonly a family history of rheumatic fever. The sedimentation rate is increased, there is a mild increase in the leucocyte count, and a moderately decreased hemoglobin.

ROENTGENOLOGY

By FRANKLIN B. BOGART, M.D.

Medical Arts Building, Chattanooga

Lipoid Pneumonia in Infants and Children. Bromer, R. S., and Wolman, I. J. *Radiology*, Vol. 32, No. 1, p. 1, January, 1939.

Lipoid pneumonia, which follows the entrance of oily substances into the lungs, is now recognized as a disease entity.

A brief report of the literature is given, and twenty-seven cases are reported. Twenty-two of these cases died and twenty were autopsied. Although sixteen had had roentgen examination of the chest, in only one case was the true nature of the condition recognized before death.

All but four of the cases were less than two years of age. In two-thirds of the cases in this series, the pneumonia was associated with some kind of constitutional debility, such as rickets, prematurity, congenital syphilis, microcephaly, infantile scurvy, mongolism, spastic diplegia, amyotonia congenita, intestinal malformations, and congenital cardiac defects. This fact indicates that physical weakness must be an important predisposing factor as an etiology factor.

The most common symptom was chronic cough, but it was present in only six of the cases. Usually, on physical examination, the chest was clear, but in a few cases, minor signs were observed over the area of consolidation. None of the cases had a positive tuberculin.

The X-ray findings in this series varied widely, but by a consideration of the history and the X-ray findings, lipoid pneumonia should be suspected, and the cases can be classified into mild, moderate, or severe.

In mild cases there is an increase in the degree of density and in the extent of the hilar shadows. The linear markings of the lung fields are more exaggerated than normal. There may be scattered areas of increased density along the bronchi, particularly at the right base, both because the occurrence is more frequent at the right base, and because the heart obscures the changes at the left base.

In cases with moderate involvement the perihilar shadows are more marked. The involvement is much more frequent and extensive on the right side.

In severe cases the perihilar shadows spread well out toward the periphery of the lung, although usually a clear zone is left between the dense shadow and the chest wall. A definite lobar pneumonia shadow is not seen in lipoid pneumonia unless nonlipoid pneumonia is present simultaneously.

CONCLUSIONS

Pneumonia due to the aspiration of oily substances is not uncommon and can be considered a clinical and pathologic entity.

Infants with physical debility and neurologic disorders seem to be unusually susceptible.

The roentgen diagnosis can be made in patients having extensive involvement. It is based upon location of lesions in the perihilar regions, in the posterior portions of the lungs, and to a greater degree in the right lung than in the left. In the moderate and mild cases, serial roentgenograms and an accurate history are needed before a positive diagnosis can be attempted. The necessity for serial examinations cannot be emphasized too strongly.

It is not wise to employ liquid petrolatum, etc., as nose drops in any small, weak, or debilitated child. When infants are inclined to vomit oil it is important that they be placed on the side or abdomen rather than upon the back. Cod-liver oil or liquid petrolatum should never be forced.

SURGERY—GENERAL AND ABDOMINAL

By BATTLE MALONE, II, M.D.
1400 Monroe Avenue, Memphis

Regional Enteritis. Charles G. Mixter, M.D. *Surgery, Gynecology, and Obstetrics*, February 15, 1939.

In the past six years much has been written on this subject which was stimulated by the work of Crohn, Ginzburg, and Oppenheimer. The disease is referred to as one of youth, fifty per cent of the author's cases being under twenty-five years of age. The cause remains unknown, although many etiological agents have been suggested. The clinical features of regional enteritis are those of a low-grade inflammatory lesion of the intestinal tract, often of months' or years' duration. The disease is progressive, but there may be remissions.

In the first of the four phases of this condition, symptoms are pain in the right lower quadrant, fever, leucocytosis, tenderness, and spasm, which often leads to a mistaken diagnosis of appendicitis. The next step in the progress of the disease is the onset of symptoms suggestive of ulcerative colitis. Unlike colitis tenesmus is absent and no ulceration is seen on proctoscopic examination. Anemia is present and perianal abscesses or fistulas may be found. There is a tendency of the affected loop to agglutinate to the surrounding structures. There is marked thickening of the bowel wall largely due to edema. The third stage is that of chronic partial obstruction. A mass is almost always palpable and there is severe colicky pain. The diseased gut is rigid and hoselike. The fourth stage is characterized by fistulas, perforations, and abscesses. There may be communications between the diseased loop of bowel and the cecum or ascending colon.

In the early stages roentgenologic examination shows only hypermotility. Later filling defects and areas of partial obstruction can be demonstrated. A prolonged history of abdominal colic, irregular

bowel habit, weight loss, slight fever, and leucocytosis is suggestive of this disease. Sufficient time has not elapsed for the adoption of a fixed method of treatment. Surgical procedures are considered indicated in regional enteritis in all stages except the first. Here surgical intervention is considered unwise and conservative measures should be carried out, consisting of a strict medical regimen with sufficient rest and a bland diet. Three to six months is an adequate trial and if then the patient's condition continues to deteriorate, a surgical approach should be considered. Surgical intervention should be employed before obstruction or fistula formation takes place. Indications for radical resection are marked fibrotic changes in the intestinal wall and mesenteric adenopathy. A wide excision of the diseased bowel and its mesentery should be done, preferably using a Mikulicz procedure. Short-circuiting operations in obstructed cases are not successful, in the author's opinion, unless followed by radical resection. The presence of fistulas complicates the procedure, but these are dealt with at the time of resection. Recurrence following operation varies from fifteen to twenty per cent, most of which are seen in cases operated in a late stage of the disease.

UROLOGY

By TOM R. BARRY, M.D., F.A.C.S.

By G. A. WILLIAMSON, JR., M.D.
Medical Building, Knoxville

Use of Vitamin C in the Treatment of Essential Hematuria. Preliminary Report. Carl E. Burkland. *Journal of Urology*, March, 1939.

The diagnosis of essential hematuria has been purely clinical, and arrived at by exclusion. The

treatment has been very empirical, because the etiology is unknown.

It is this author's opinion that essential hematuria is a result of increased capillary permeability in the kidneys, due to a defect in the intercellular cement substance in the endothelium of the capillaries, permitting the easy migration of blood cells through the walls.

As shown by Walbach and Howe, one of the main functions of vitamin C is to promote or regulate the formation of the intercellular cement substance. Consequently, increasing the vitamin C intake of individuals increases their capillary resistance, thus preventing hemorrhage.

Four cases are reported here which were diagnosed as essential hematuria, none of which showed any evidence of scurvy or other hemorrhagic tendencies, with one exception. This case had a diarrhea associated with the hematuria. The hematuria in all cases were of several weeks' duration.

They were given vitamin C intravenously in amounts varying from 100 to 500 milligrams daily. All cases showed immediate improvement, and the urine was free of blood in from two to seven days. Vitamin C may also be given orally by means of cevitamic acid tablets and fruit juices. No reaction has been noted on the intravenous use of this drug.

In view of the fact that cases of essential hematuria respond to vitamin C treatment, this condition might fall in the group of vitamin C deficiency diseases.

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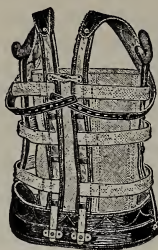
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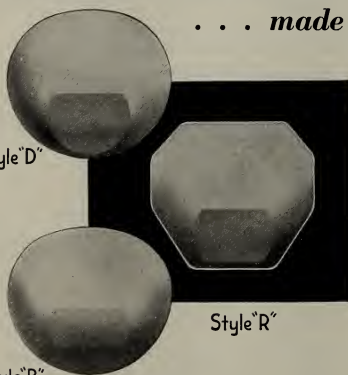
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URINARY INFECTIONS*

TOM R. BARRY, M.D., Knoxville

FOR MORE THAN a century the custom of inflicting a presidential address on the members of the Tennessee State Medical Society has been a recognized procedure. This evening I have the great honor and distinction of carrying on this custom. However great your suffering may be sitting through this ordeal, you may know that the fear with which I have anticipated this great occasion has far outweighed any pain that you may feel.

I would indeed be ungrateful if I did not attempt to express to you my deep appreciation of the honor you have shown me by selecting me as your president. I also want to thank the various committees, and especially our esteemed, faithful, and capable secretary, for their splendid work and co-operation during the past year.

My remarks tonight will be an attempt to make the general practitioner more urologically conscious, and briefly discuss some of the commoner urinary infections.

There is possibly no branch of medicine so poorly practiced by the general practitioner as is urology. It is he who sees these cases in their incipency, and at a time when an early diagnosis may be the means of rescuing many kidneys from useless and needless destruction. The early recognition by him of tumors of the urinary tract is the only hope of lowering malignant mortality.

Kidney infections comprise by far the

most interesting, and at times, the most baffling, conditions that the urologist will encounter.

From a practical standpoint, we may classify all renal infections in two types. First, those that invade the cortex only (carbuncles and cortical abscess), and secondly the common type, known as pyelitis, or pyelonephritis, which is a panrenal affair.

Infections of the cortex are with few exceptions carried by the blood stream, and unrelated to any urinary focus. These cases are more acutely ill, the patient is profoundly toxic, and in many ways resembles an abdominal catastrophe.

To differentiate a carbuncle from a simple cortical abscess is rarely possible, and I might say unimportant, since both demand immediate surgery. Both are usually secondary to some peripheral and distant focus. Only by exploration and visualization of the kidney can one be certain with which type he is dealing. Diagnosis in these cases may be extremely difficult. When a patient is suddenly seized with acute lumbar pain, chills, and elevated temperature, together with a history of recent boils, acute tonsillitis, mastoid, etc., one should strongly suspect a cortical infection. In contradistinction to the relatively slow pulse found in pyelitis, one will find an extremely rapid pulse. A similarly high temperature is found in pyelitis, but the pulse rarely goes beyond 100 except immediately after a chill. The urine in these cases will

*Presidential address read before the Tennessee State Medical Association, Jackson, April 11, 1939.

usually show little abnormality. A faint trace of albumin may be the only pathological element. By careful examination of a well-centrifuged specimen, we will usually find a few cocci present. X-ray will be of only slight assistance in the diagnosis. Likewise the cystoscope is of value only in excluding other conditions.

A cortical abscess is always due to a coccus infection, the commonest of which are staph aureus, albus, and streptococci, in the order named. Why bacillary infections rarely affect the cortex has not been satisfactorily explained.

As stated above, early surgery is the universally accepted treatment. Little may be expected even from sulfanilamide therapy. The size, number, and location of the abscesses will indicate either drainage or nephrectomy. Evacuation of the abscess cavity, and scraping with a sponged finger, followed by drainage will usually suffice. One author suggests leaving the wound unsutured, so that he may later evacuate any secondary abscesses. These wounds, I believe, require more prolonged drainage than in other conditions. A personal experience encountered some two years ago merits recital. "After evacuation of a tiny abscess at the upper pole, the temperature dropped to normal in forty-eight hours, and then gradually elevated to its former level. After intravenous neosarsphenamine on two successive days, the temperature became normal in forty-eight hours and remained so."

Before considering surgery in these cases intravenous pyelography should be a routine to prove the adequacy of the opposite kidney, as one might be embarrassed by an anuria following a nephrectomy of a single kidney. Although bilateral cortical abscesses have been reported, unilateral infection is the rule.

The other general type of infection, pyelonephritis is reputed to be the commonest ill that affects us next to the well-known cold. Three types of pyelitis are well recognized—the acute, chronic, and recurrent.

Acute pyelitis is purely a medical condition, usually runs its own course, and until the recent advent of the newer antiseptics

was little influenced by medication. The diagnosis of this condition is rarely difficult if a careful history is taken, and an examination of the urine is a routine. Chills, fever, urinary frequency, and dysuria are familiar to us all. Do not be content, however, with finding a normal urine on one examination, for occasionally fever and chills may antedate the urinary findings for a few hours. Intelligent treatment entails the recognition of the type of offending organism and applying the proper anti-septic. The fact that a large number of cases of pyelitis are treated for influenza adds little respect to the physician and is vital evidence that the urine has not been examined.

Instrumentation of any kind has no place in acute pyelitis.

Recovery may be expected in from one to three weeks, even in untreated cases.

I would strongly emphasize the necessity of keeping these patients under observation until at least two urines are microscopically clear and preferably culturally negative. This is of paramount importance if chronic and recurrent pyelitis is to be avoided since both of these types are a sequel of this condition.

Whether it is true that the coccus is the primary invader, and is later overshadowed by bacillus coli as believed by some authorities, we do know that eighty per cent of these infections are due to some strain of bacillus coli.

The preponderance of females over males is a well-recognized fact. The reason for this is probably explained from an anatomical basis. The route through which the infection reaches the kidney is still a disputed one, and is really of little practical importance. When the acute condition is past, all possible foci should be removed.

The high incidence of recurrent pyelitis is an indictment of the inefficiency in the treatment of the acute cases. The fact that pyelitis recurs is sufficient evidence to make one suspect an unrecognized cause, and is a clear indication that a careful and thorough examination, including cystoscopy and urograms, should be done.

One should be certain that the infection

is nontuberculous and also determines the presence or absence of stones. Any cause pertaining to poor drainage should be removed.

Rarely do we find recurrent pyelitis where a mechanical factor is not present. It is even more important in recurrent than in acute pyelitis to isolate the infecting organism.

To treat a proteus infection with mandelic acid, or bacillus coli with arsphenamine, is just as intelligent as attempting to cure malaria with aspirin. To isolate the organism does not entail elaborate equipment. A gram stain of a centrifuged specimen is sufficient for all practical purposes. Cultures are desirable, but not essential, unless the infection persists, which is usually evidence of the failure to employ the proper drug.

There is a small, but nevertheless important, group of patients whose pyurias are sterile, and where tuberculosis and stone have been definitely excluded. These are the so-called abacterial pyurias. In my opinion, failure to obtain culture growths are due to the use of incorrect media. We have been able to grow a few of these urines, using the patient's own blood. Usually these abacterial pyurias are due to a staphylococcus and will respond well to neoarsphenamine.

According to Braasch, recurrent and chronic pyurias are due to bacillus coli, bacillus proteus, and *P. aerogenes*. Staph is more common than strep, but strep faecalis is not an uncommon offender. Until a few years ago the only urinary antiseptic of any value was uratropin, and it still has a place in urology.

The advent of the Ketogenic diet was the first real advancement in the treatment of urinary infections. Although its value is unquestioned, its proper administration is difficult, and is unpalatable and disagreeable to most patients. These drawbacks led to the search for a similar acid and resulted in the development of mandelic acid. This drug is highly bactericidal to bacillus coli and strep faecalis, and in the latter should be a routine. I believe, however, that sulfanilamide will be found more valuable in

bacillus coli infection. The intelligent use of mandelic entails the necessity of frequent pH determinations. It is valueless in alkaline infection.

Sulfanilamide is the nearest to a perfect antiseptic yet produced. Its greatest potency is in alkaline urine, although it works well in acid urine. Its mode of action is not clear, but the work of Bliss and Long suggest that it may be antibacterial. "Experimental evidence indicates that at least one of its actions is to render the urine, spinal fluid, and other tissue fluids unfavorable to the multiplication of susceptible bacteria."

The dosage likewise is not clearly understood. A concentration in the blood of 200 milligrams per cent is recommended, but we know, however, that much lower concentration will sterilize the urine of susceptible bacteria. It is probably eliminated in all body fluids. The concentration in spinal fluid is about the same as blood, and its concentration in prostatic fluid is about the same as urine.

Even with these remarkably efficient drugs, one must not forget that their effectiveness is dependent on an adequate kidney function. The toxicity of sulfanilamide is too well known to you all to merit discussion. When these toxic elements can be eliminated, this drug will be even more valuable. The tolerance of elderly people is especially poor. We feel that soda bicarb distinctly lowers its toxicity. In some cases of coccus infections of the kidney, neoarsphenamine has a distinct value.

Of all types of urinary infection, the alkaline ones are by far the most resistant and will tax one's resources to eradicate. Contrary to most authors, the treatment of proteus infections with prontylin, in our hands, has not been especially helpful. Lavage of the kidney with acetic or phosphoric acid will occasionally be beneficial.

Chronic alkaline urinary infections are truly malignant from a standpoint of prognosis. In alkaline urines, it is of utmost importance to determine whether or not the organism splits urea. For example, if one persists in attempts to acidify one of the urea-splitting organisms with ammonium

chloride, the alkalinity will be increased by its being broken down into urea and ammonia.

Prolonged surgical drainage will occasionally be required to eliminate these infections.

Cystitis per se is probably the least common condition that we see in urological practice. That it is an entity, no one can refute, but we are daily impressed with the large number of kidneys which require removal due to the inexcusable fact that the family doctor has treated these unfortunates for months or years for a cystitis. Infection of the unobstructed bladder is a most unusual disease. Cystitis should never be diagnosed until the kidneys have been exonerated. I seriously doubt if lavage is of any real value in the treatment of

cystitis. Give the bladder proper drainage and the infection will usually disappear. Infection in the urethra leads to late strictures, especially in the female. This condition, contrary to general belief, is much more common in the female than in the male, and has one outstanding characteristic, frequency of urination by day, and absence at night. Dysuria is also a common complaint. Strictures in the female, even of large caliber, are productive of severe symptoms.

Conclusions.—It is clearly an obligation of the general practitioner to closely observe all urinary infections until the urine is normal on repeated examinations.

By so doing many useful kidneys will be saved and unnecessary nephrectomies avoided.

GANGRENE OF THE PENIS—REPORT OF A CASE*

JOHN A. CONROY, M.D., Gatlinburg

GANGRENE in any part of the body is a serious condition. When it involves a limb or appendage, it may be sometimes easily dealt with surgically. When gangrene involves a very necessary organ, such as the penis, it cannot be dealt with so easily. In other types of cases amputation is the method of last resort. Where the penis is involved, one cannot so readily think in terms of amputation. I am going to present herewith a case of gangrene of the penis, caused primarily by using a strong caustic to cauterize a slight wound.

LITERATURE

The literature on this type of case seems to be fairly voluminous, and it is evident that cases similar to the one I am going to report are fairly common.

Corbus disease is a type of gangrene of the penis, as is gangrenous balanitis. The former was first described by Corbus and Harris in 1909 and was called by them the fourth venereal disease, and is said to have been caused by a symbiosis of a vibrio and a spirochete. The local and constitutional symptoms of Corbus disease vary with the infection. It is said to be due to unclean habits, and the predisposing factors are a long, tight foreskin which excludes the air, or moistening the genitalia with saliva. The organism is anaerobic, and it can only occur in those who have not been circumcised, whereas gangrene can occur in any one. The latter was first described by Batille and Berdel in 1889, and their work was confirmed by Scherber and Muller in 1904. Lloyd¹ reported a case of gangrenous balanitis in which the patient recovered under a treatment of hydrogen peroxide and potassium permanganate solution 1:1,000. Abbott and Ryan² reported two cases of Corbus disease in which one was fatal and one recovered.

Shafiroff³ states that gangrene of the pe-

nis may start from a scratch, cut, or some other local pathology that apparently seems to be of a negligible sort. Hicks⁴ reported a case that was caused by the application of a fifty per cent iodine solution to a small ulcer on the penis, but his case had a four plus Wassermann reaction, and cleared up easily under antiluetic treatment. Eddleman⁵ reported two cases that were caused by applying caustics. One was a seventeen-year-old youth that resulted in a complete posthetomy, and the other a twenty-two-year-old youth who had a protracted recovery due to the long time it took the mucous membrane to cover the stump. He also states that penile gangrene is not a very commonly observed affliction, and lists typhoid, typhus, influenza, smallpox, senility, diabetes, acute alcoholism, frostbite, iliac

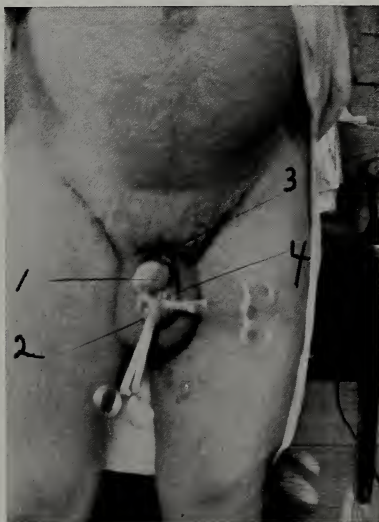


Fig. 1. (1) Glands; (2) foreskin, with hemostat through original opening for the glands; (3) shaft and area back to abdomen; (4) rolled skin edges alongside of shaft and just beneath it.

*Read before the Sevier County Medical Society, March 3, 1938.

thrombosis, thrombosis of dorsal penile artery, prolonged priapism, trauma, phimosis, paraphimosis, urinary extravasation, chancre, Vincent's disease, balanitis, simple venereal ulcer, employment of some cauterizing agent (similar to case herein described) as some causes of penile gangrene.

Moorehead⁶ reported a case which involved the glands and was amputated two weeks after admission to a hospital. He stated the bacterial cause in this case may have been (he was not sure) due to the vibrio and spirochete observed by Corbus.

Mallard⁷ described the reconstruction of the urethra and penis following an extensive case of gangrene.

Greene⁸ reported a case of acute streptococcic penile gangrene evidently caused by scratching the skin on the dorsal surface of the shaft of the penis that was infected with scabies. He states that the mortality of such cases due to the streptococci are over twenty-five per cent.

Brown⁹ reported a case wherein he re-

stored the entire skin of the penis by graft following an extensive gangrene.

Linder and Levitos¹⁰ described a case that was caused spontaneously by a hemolytic streptococci organism and completely denuded the testicles and penis.

REPORT OF A CASE

In May, 1937, an adult male, age fifty-three, came to my office for treatment of what he called a large ulceration of the penis.

He gave a history of having intercourse on or about November 3, 1936, and about eight days later there developed a small inflamed pimple on the dorsal surface of the skin on the shaft of the penis about midway between the glands and the abdominal wall. He became alarmed, believing he had contracted syphilis, so he started to institute self-treatment. He first used hot poultices, and when the skin broke and a small ulcer formed, he tried dusting in with calomel powder in order to dry it up. As several weeks went by and it did not seem to get any better, one of his neighbors prescribed lysol soaks. This seemed to irritate it, and it gradually became more painful. He decided to consult a druggist, who suggested that he cauterize the wound. This he did (probably with a sodium hydroxide stick), and the result was an extensive ulcer with much sloughing. He tried various other home remedies without success. About seven months after the onset he decided that he should see a physician.

Physical examination revealed an adult male who looked his age, slightly obese, weight about 200 pounds, seemingly in general good health, but claimed he lost about twenty-five pounds "mostly due to worry," he said, over his present condition. His heart and lungs were negative. Blood pressure 140/80. His penis was raw, ulcerated, dark in color, sloughing from the glands to the abdomen, and gave off a foul odor. The foreskin had slipped over the glands and hung in an edematous knot below. It could easily be replaced back over the glands at will. The whole dorsal surface of the shaft of the penis was involved. The undersurface seemed to be normal, except for some

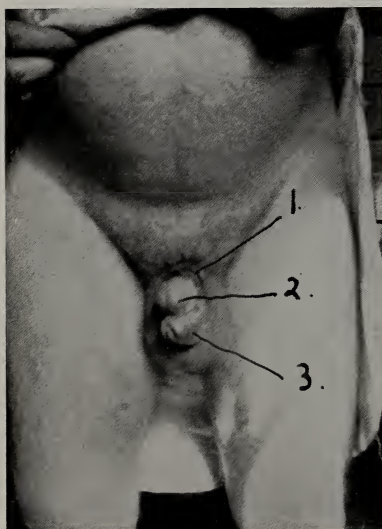


Fig 2. (1) Healed area of shaft, showing extension of gangrenous area back to the abdomen; (2) glands; (3) foreskin.

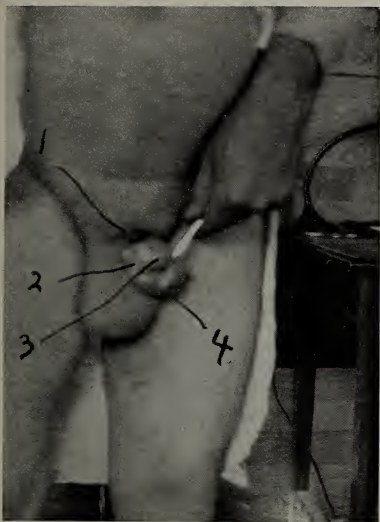


Fig. 3. (1) Where area of gangrene extended in underskin of the abdomen; (2) healed shaft of penis; (3) glands; (4) foreskin hanging in knot below glands.

edema. There was not any granulation tissue present anywhere on the wound. It was discharging pus and serous fluid from the entire surface involved, and from a distance of about one inch up under the skin of the abdominal wall. The edges of the entire wound were sloughing, and there was a thin film of slough over the entire gangrenous surface.

The laboratory work done revealed a high white count with a prevalence of polymorphonuclear cells, a normal red count, a hemoglobin of eighty per cent (Talquist), a negative Kahn test, and a negative urine test for albumen and sugar. Repeated Kahn tests at various times the patient was under treatment were all negative. Repeated smears from the surface of the wound revealed no definite organism present. A culture was never taken.

THERAPY AND PROGRESS

The patient had used everything he and his neighbors could think of before he ap-

plied for treatment. Later practically everything of benefit in the pharmacopoeia was used, plus various suggestions from other physicians with whom the case had been discussed. The patient was immediately hospitalized, and he left the hospital within ten days of admission against advice. He was given all sorts of hot soaks, from urea to potassium permanganate solution to boric acid solution to plain hot water. After about two months of that and the patient being kept in bed all the time, the wound began to show some signs of healing. The pus and slough decreased and the edges showed some signs of granulating. In order to stimulate granulation and hasten healing, cod-liver oil dressings were applied, both in ointment and liquid forms. After a week or so of these dressings, the wound began to discharge pus and had a foul odor once more. These dressings were discontinued, and the hot boric acid solution applications were resumed. The wound again seemed to improve, so the patient was referred to a surgeon for a possible skin graft. He was returned with the suggestion that the hot boric acid applications be continued until a perfectly clean surface be obtained. About three weeks later the surface seemed to be clean enough for a graft, but the patient refused to return to the surgeon. Gradually the surface covered with epithelium under the applications of mercurchrome two per cent and the use of iodoform (five per cent) gauze packs. There is still at the present time a small raw surface close to the abdomen wall which is gradually but slowly healing. Fortunately in this case the urethra was never involved. The foreskin still hangs below the glands and at times gets slightly edematous and leaves a rather poor cosmetic result, but cannot now be replaced over the glands. When all signs of infection are over and the dorsal surface thoroughly covered with epithelium, the redundant skin should be removed surgically, and then I presume that the patient could resume sexual relations without difficulty. The progress has been exceptionally slow in this case, mostly due to the patient's own carelessness and stubbornness.

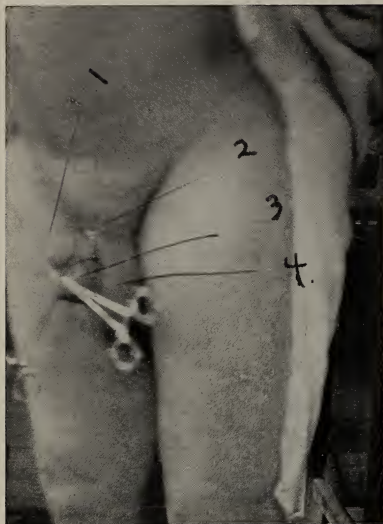


Fig. 4. (1) Glands; (2) shaft and area at abdomen; (3) foreskin—hemostats through original opening for glands (inserted above and below); (4) testicles.

COMMENT

The case is reported to show the fallacy of self-medication and the false pride of a patient suffering from syphilophobia. The patient is up and around, doing light work, and living a normal life. If he had applied

for medical aid in the beginning instead of seven months after the onset, he probably would not have had such an extensive infection, or at least he would not have had such a protracted recovery.

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METRAZOL THERAPY*

B. F. PETERSON, M.D., Assistant Superintendent, Eastern State Hospital, Knoxville

METRAZOL IS A DRUG that has been used primarily as an emergency cardiac stimulant. It was noted that some of the patients when given ordinary doses of metrazol would develop from a mild to a severe convulsion. Because of this reaction without danger to the patient, it is now used to produce convulsions which is the feature of this treatment. Other drugs were used at first, namely, camphor or a twenty-five per cent oily solution injected intramuscularly for the purpose of producing convulsions. It was found that camphor was not suitable for this because of the inability to control the convulsions, or the dosage to produce the convulsions. The use of metrazol as treatment of dementia praecox was based upon observations of Myiro and Jablonszky and others that in the cases of epilepsy with schizophrenia the seizures became infrequent or ceased entirely. On the basis of this observation the following hypothesis was formulated: "Between epilepsy and schizophrenia there is a biological antagonism. Should it be possible to induce epileptic attacks in schizophrenic patients, such epileptic attacks would change the chemical and other aspects of the organism in such a manner that thereby, since the organism so changed would represent an unfavorable basis for the development of schizophrenia, a biological possibility is given for a remission of the disease."

Metrazol therapy was begun about three years ago. A great deal of this time has been with experimental work. We have only been using it since June of 1938. Our number of cases is not large because we have not had sufficient time to give treatments to enough patients to give any statistics as to our results, but they have been such that we feel that they are worth reporting in this discussion.

At the present time we have eleven pa-

tients on this treatment; none of these have completed the treatment because of the fact that early in the treatment we were very cautious with it and through this cautiousness in the early stages we have gotten invaluable experience in methods, technic, and care. Of the eleven, six have shown considerable improvement. Of the remaining five, two have shown a small amount of improvement and the other three have seemingly made no change whatsoever. I will take up only one of these cases in detail because I feel that it is the most interesting because of the patient's history and treatment preceding the metrazol therapy.

The technic of the treatment in brief is as follows: The only instruments needed are a luer syringe and a mouth gag, the greatest advantage of the treatment being the simplicity with which one is able to give it and the minimum of equipment required to give it. It also enables a physician to give a large number of treatments in a short period of time because of the short duration required for the completion of a treatment. Patients are given ten per cent metrazol intravenously. The rate of administration is important since the more rapid the administration the more easily convulsive seizures are produced and the minimizing the amount of metrazol used. Our patients were started with three cubic centimeters of metrazol intravenously. In some cases this is sufficient to produce a reaction, or several injections may fail to produce one because of the patient's tolerance to the drug. When a certain amount fails to produce the desired reaction we increase the amount of metrazol at the rate of one-half cubic centimeter until the desired convulsion is obtained.

According to literature it is possible to repeat the dosage of metrazol after a period of five minutes' rest to allow the patient's respiratory and cardiac rate to return to normal. No ill effects have been noted from repetition of doses.

*Read before the Knox County Medical Society, September 27, 1929.

Almost immediately following the injection of metrazol there may be a short cough followed in a few seconds by blinking of the eyelids and a rigid expectant attitude of the patient. About twenty to forty seconds after the injection the patient develops a short clonic followed by a tonic convulsion. The body may assume one of several characteristic postures and the mouth is opened wide, in fact, opening of the mouth is so pronounced that subluxation of the temporomandibular joint is caused very frequently during this phase. Typical clonic convulsions follow the tonic seizure and differ from those of idiopathic epilepsy only in the severity of the seizure. Toward the termination of the convulsive reaction the patient becomes progressively more cyanotic until a deep cyanosis develops, followed for a moment by apnea and a deep inspiratory action as the apnea ends. This cyanosis is the nearest thing to a death pallor I have ever seen outside of death, although it should not cause any anxiety on the part of the physician as it is no sign of danger and is found following all reactions. The patient remains unconscious for from three to ten minutes and some of them sleep for an hour or more following this period of convulsions or may be in a state of confusion for some time. Marked excitement may either occur following the convulsion or replace the convulsive seizure. Evidence of marked stimulation of the motor cortex, spinal cord, and sympathetic nervous system are manifested during the period of reaction to metrazol. We have had several complications in regard to these reactions. Only one was of a serious nature. We had one patient who had a subluxation of the temporomandibular joint, but this was reduced without any difficulty. Another patient who had had a dislocation of the humerus several times before his admission to the hospital, redislocated it twice during convulsive seizures. In one of our patients who had had a reaction to the drug immediately following the convulsion, the respiratory centers were depressed and there was a cessation of breathing. We were able after some artificial respiration to restore breathing, but she was very weak

and had to be aided by artificial respiration until breathing was more regular and much stronger. It is possible to have injury to the teeth, tongue, and lips, but with good technic and the use of a good mouth gag, this may be avoided. Our patients are given treatments two to three times a week and the treatments are to be discontinued when sufficient recovery has been brought about or when the patient has had twenty or more convulsive seizures without any results. Although a patient failing to show any improvement after having had ten convulsive seizures has a poor prognosis from the viewpoint of possible recovery or improvement on metrazol treatment.

There is a report in the literature of one case of a twenty-two-year-old laboratory assistant who committed suicide by drinking 100 cubic centimeters of ten per cent solution of metrazol and died an hour later in convulsions. There is only one other person that I have found account of who died of metrazol and this was of metrazol therapy. This patient had a very bad heart lesion and the family was advised that it would not be best for him to take the treatment, but they were so anxious to have it given, and he died following several reactions.

One institution has produced over 4,000 convulsive seizures with metrazol without any fatalities and with only a few complications such as are found regularly with this treatment.

The blood picture changes during metrazol treatment. The number of neutrophile leucocytes increase from thirteen per cent to fifteen per cent and that of the lymphocytes is approximately reduced. The acidity of the urine is usually increased about twenty-five per cent, ammonia about fourteen per cent, and chloride decreased about twenty-five per cent. In other words, the changes in the urine in the body resulting from metrazol convulsions were exactly the same as those observed by numerous authorities in epilepsy.

The patient I spoke of previously was admitted to this hospital from Hamilton County, June 24, 1937, at the age of thirty-six. He had been mentally ill for a period

of two weeks before his admission here. He was married and seemingly had no worries, either financially or domestic, that could have caused any trouble. He had been a fairly successful machinist and had made very good wages during the depression and had worked at the same position for nine years. At the time of his admittance he had not eaten or taken any fluids whatsoever for several days. It was necessary to tube him and give him glucose intravenously the first few days he was here. Tubing was very difficult because of the aspiration so many times of the tube in the trachea. We then began to use hydrotherapy in the form of ice packs and he ate readily, but refused to talk and each time would go back to his old stupor. After the use of these ice packs for a few weeks we were able to get him to eat for a few days before another treatment was given. We changed from the ice pack to a cold shower prior to each meal and found that this would produce enough change that he would eat his meals readily. It was necessary to give this shower before each meal and in checking our records I find that this man was given over 700 baths during one year. It was necessary for the patient to be pushed every step he made. He would not go anywhere voluntarily, but remained in the same rigid position with his head bowed. At times it took more than one man to move him a few feet. We obtained permission from his family to give him insulin treatment during the latter part of November. We started him on insulin January 13, 1938, and he was given twenty units of U forty insulin at that time. At the beginning of the treatment he weighed 104 pounds. He had a partial shock at eighty units. The dose was slowly increased, due to the fact that we were never able to produce a satisfactory shock or coma. We increased it until he was taking 375 units of insulin per day and even on these large amounts, little or no shock was obtained. After over five months of treatment of insulin, which is a rather long time for this type of therapy, we discontinued it. We continued it so long because of the fact that we were never able to get a good shock or coma. There was no

actual improvement and the only physical change was that he gained forty-eight and one-half pounds during the treatment. We then let him rest for two weeks and on July 6 we gave him four and one-half cubic centimeters of metrazol, but no convulsion was produced. I feel that the cause of failure of this first dose was due to our slow administration and cautiousness with the drug, this being our first patient. On July 7 five cubic centimeters of metrazol were given. The patient had a very hard convulsion lasting approximately one minute. This time we gave it as rapidly as possible. Two days later on July 9 five cubic centimeters of metrazol was given and was followed by severe convulsive reactions. The patient came out of the catatonic stupor July 10 about one o'clock, four days after the first dose of metrazol was given. They took him to give him a cold shower so he would eat. He turned around and said, "Oh, no you don't. I can eat without that." He then took his tray and ate all the food and asked for more. This was the first time he had spoken except for a few mumbled words since he had been in the hospital and the first time he had eaten voluntarily. He began to improve rapidly. He straightened up and began to take some interest in his surroundings. He wrote letters to his people for the first time. We stopped treatment for several weeks and did not give any metrazol until he began to slip back into the catatonic state, but he did not refuse to talk or eat. A series of treatment has been given at regular intervals since that time. He has had twenty convulsions. Each dose has been five cubic centimeters and a convulsion has always followed the injection of metrazol. The patient at present time is in a very good state of remission. He is eating and sleeping well and has somewhat of an insight into his past condition in that he feels that he has been mentally ill. He is taking interest in things about the hospital. He is an amateur photographer and we have been allowing him to do some work along this line. We feel that if the adjustment continues it will be only a short period of time until this man has made a sufficient recovery and can be

at home with his family again and be a useful citizen. I have given you a report on this patient because of the fact that we had previously given him insulin without any improvement and the fact that we obtained such a sudden improvement on the metrazol. It is also interesting to note the enormous amount of insulin that this patient took each day without any effect on him.

It is our opinion that metrazol is safe in the hands of any capable physician who has had a minimum of experience with this type of patient and treatment, and it is possible for the early cases of dementia praecox to be treated by private physicians, in any hospital, in the physician's office or even in

the home if sufficient cooperation and assistance can be gotten from the family. It is hopeful on our part that early cases of dementia praecox will get early treatment by you and other physicians and they will improve and not have to be brought here as patients. The greatest difficulty we are having in the treatment of these cases is the fact that they have been mentally ill for many years before the family brings them to the institution. They do not bring them here until they have tried every source of treatment outside the institution. Statistics show about eighty per cent remissions or recovery in cases of six months or less duration.

ADULT INTUSSUSCEPTION

C. M. MILLER, M.D., Nashville

INTUSSUSCEPTION in adults is a rather rare occurrence, but the fact that it does appear is sufficient reason for us to be acquainted with the signs and symptoms of the condition so that we may be more on the alert for its detection prior to operation. That it is an unusual occurrence is borne out by the fact that in the Nashville General Hospital over a period of fifteen years there was only one case reported in 75,000 admissions. There have been three cases reported at St. Thomas Hospital and only one case at the Protestant Hospital over a period of years.

Since the majority of these cases of adult intussusception have as a causative factor tumor of the small intestine or large intestine, it is interesting to note the rarity of tumors of the small intestine. Raiford,¹ in reporting 11,500 post-mortem examinations, found only thirty-seven benign tumors of the small intestine and reported that thirteen more were found in 45,000 surgical specimens. Willis² reported the finding of nineteen benign tumors in 7,492 autopsies. In 1933, Rankin³ and Newell³, in reporting all of the cases at the Mayo Clinic, were able to find only thirty-six benign tumors.

I wish to present five cases which have been seen at the various Nashville hospitals.

CASE NO. 1

Mrs. W. T., age twenty-one, admitted to the Protestant Hospital, Nashville, Tennessee, on May 16, 1938, with a chief complaint of pain in the stomach. Present illness began thirty-six hours prior to admission with cramping in the epigastrium associated with nausea and vomiting. Morphine was administered by her family physician. She was comfortable for twelve hours, at which time she was having no pain in either lower quadrant. There was no blood in the stools and no frequency of urination. Twenty-four hours following the beginning of her illness, the temperature

was 100, pulse 110, and there was some tenderness in the left lower quadrant. The pain had left the epigastrium, the vomiting however had continued. Enemas were given with good results and no blood was noted in the stools. Vaginal examination negative. Thirty hours following the onset of the illness the point of localization had shifted from the left lower quadrant to McBurney's point. Temperature at this time was 101 2/5, pulse 140, and the respiration thirty. The past history indicated that about one year prior to this attack she had suffered a somewhat similar attack which was relieved by the injection of morphine. There was no history of constipation or melena. She denied having had any pelvic infection. She had one child, age three, living and well. It was impossible to develop any familiar history as to other attacks.

Physical Examination.—The patient was a rather obese white female, twenty-one years of age, who was lying quietly in bed and apparently suffering no acute pain at the time of the examination. Physical examination negative except for the abdomen. Abdominal examination revealed no distention. Percussion showed a slightly tympanitic abdomen, definite peristalsis occurred over the entire abdomen. Pelvic examination negative. The urine examination was negative and the white blood count 15,000.

Impression.—Acute appendicitis.

Operation.—Under general anesthesia the abdomen was opened through a McBurney incision. Upon entering the peritoneal cavity a mass occurring near appendix region was easily visible. Upon closer inspection it was found to be an intussusception which had occurred in the small intestine, probably in the ileum. The mass was quite firm and it was felt that very probably, since the intussusception from the history had existed for thirty-six hours, the intestine was not viable. However, reduction of the

intussusception was done in the usual manner. It was then noted that the intestine was quite dark, gangrenous, and there was a foul odor present. A resection, using the basting stitch technique, was done, and end-to-end anastomosis accomplished. No drainage used.

The patient had a rather stormy convalescence for the first two days. Transfusions were given, intravenous and parental glucose and saline were used, and constant Wagenstein suction was employed. The wound healed normally by first intention.

The pathological report was as follows gross: At one end of the specimen there is a tumor two and one-half centimeters in diameter. It is rough and slightly flattened on the top. Cut surface of the tumor is necrotic. The surface of the tumor is rough and granular. The tumor itself is pliable, the portion of the gut beginning at the tumor and extending for twenty centimeters is gangrenous. The other portion of the gut is normal in appearance.

The Microscopic Pathology.—The section shows a finely papillary appearance with great vascularity. There are several projections consisting of delicate connective tissue covered with a single layer of cylindrical epithelial cells. The diagnosis is villus papilloma, nonmalignant.

Subsequent follow-ups show the patient to be quite well.

CASE No. 2

E. H., age sixteen, entered the hospital September 7, 1934, with a chief complaint of pain in the right lower quadrant associated with nausea and vomiting which had been present for twenty-four hours. Enema was taken and good results were obtained, however, there had been no bowel movement following the taking of the enema. The pain had been more or less of an intermittent type and there had been no fever or fecal vomiting. The past history indicated that two years prior he had had an operation for intussusception with a polypus present and that two years prior to this operation he had also had an operation for polypus with intussusception, at which time the appendix was removed. The family history was extremely important. The

father, age thirty, died with cancer of the rectum. One sister, age nineteen, had had two operations for polypoid tumors of the bowel. Physical examination was essentially negative with the exception of the abdomen. This was distended and on palpation a small rounded mass, just to the right of the umbilicus and about the size of a walnut, could be felt. The urine was negative, and the white blood count 12,900. Temperature $90\frac{3}{5}$, pulse eighty. The tentative diagnosis was intussusception and operation was advised.

At operation intussusception was found near the ileocecal valve and easily reduced. Two polypii as large as hickory nuts, three and one-half inches apart, were found in the small intestine. Resection of six inches of the small intestine was done. Patient made a rather uneventful recovery. Pathological specimen reported multiple polypii of an adenomatous nature with chronic inflammatory tissue.

There are two points of extreme interest in this patient. The first was the familial history of polyposis which is an established fact. The second interesting point is that the father died at age thirty with carcinoma of the rectum, which in all probability was due to carcinomatous change of polypii. Various authors have claimed that large intestine polyposis predisposes to carcinomatous disease in forty per cent of cases.

CASE No. 3

Mrs. E. R., age twenty-two, entered the hospital May 1, 1936, with a chief complaint of "pain in the stomach." Her chief complaint began five days before admission, at which time she was seized with pain in the abdomen, generalized in character, but chiefly about the umbilicus with occasional pain in the right lower quadrant. She was nauseated and vomited. Enemas were given and good results noted on the first stool. There had been no stools, however, since the beginning of the illness. There was no temperature elevation. The past history indicated that she had had other attacks of abdominal pain, but there was no family history of polyposis. The temperature was normal, pulse 120, respiration twenty-five, white count 5,500.

Abdominal examination showed generalized rigidity present, but no mass could be felt. The maximum tenderness was to the right of the umbilicus in the upper border of the right lower quadrant. There was moderate distention noted. Preoperative diagnosis was appendiceal abscess.

At operation the ileum was telescoped into the cecum. The intussusception was reduced and about three inches of the ileum was removed. Enterostomy done on the ileum twelve inches above the anastomosis. Postoperative course was stormy, but the patient recovered. There was no mention made of a polypus in the pathological report, merely gangrenous intestine was noted.

CASE No. 4

Mr. M. E., age twenty-three, admitted to the hospital August 23, 1932, with chief complaint of pain and tenderness in the right lower quadrant dating back three days prior to admission. Chief complaint was initiated by a cramping pain in the epigastrium associated with nausea and vomiting. These symptoms continued until the morning of entry, at which time localization was present in the right lower quadrant. Physical examination was negative with the exception of the abdominal examination which showed slight distention with marked rigidity and pain to pressure over the right lower quadrant. There was also marked pain on pressure over the right flank region. There was a palpable mass in the right lower quadrant. Impression was an appendiceal abscess. Laparotomy was performed through a McBurney incision and a typical ileocecal intussusception was found. The intussusception was reduced and no resection was done. The patient made an uneventful recovery.

CASE No. 5

M. L., colored female, age thirty, entered the hospital February 23, 1926, with a chief complaint of cramping pain in the epigastrium, which had been present constantly for the past month. The pain had been so severe as to prevent her sleeping either day or night. Constipation was present and unless she took salts, having watery stools, there was no bowel movement. There was no history given of nausea or vomiting.

Family history negative. Physical examination revealed a mass which could be felt easily on abdominal examination and could be palpated easily on vaginal examination. Above this and just to the right of the navel was a smaller sausage-shaped mass which could be felt and a preoperative diagnosis of pyosalpinx and fibrosis uteri was made.

At operation the sausage-shaped tumor was found to be an intussuscepted mass which could be reduced. A small tumor could be felt within the lumen of the intestine. Resection and lateral anastomosis was done. The pathological report indicated that the tumor felt within the lumen of the canal was an invaginated Meckel's diverticulum.

In the five cases presented, two of them showed a benign tumor of the small intestine, a third showed an invaginated Meckel's diverticulum, and in two no mention was made of any polypus being present.

From the standpoint of mechanics intussusception may be considered in two groups. The first group consists of those cases which are associated with a tumor, often polypoid, and situated at the apex of the intussusception. In these cases the polypus has been dealt with by the bowel below as if it were the usual intestinal content and is hurried along the intestinal tract dragging with it the intestine. The second group is composed of those cases in which there is an irritation to the bowel. This latter group has always occasioned considerable difficulty in visualizing the mechanical commencement of intussusception. It is necessary that in order to clarify this condition that we consider first that transient intussusception is a naturally occurring movement in the intestine, as is shown by various physiological studies. Secondly, it has been shown experimentally that it is possible to produce intense local spasms, causing a veritable constriction ring in the intestine, either by pinching it with a forceps or by electrical stimulation. This constriction ring may remain for some time, and it is quite easy to visualize it passing into the dilated intestine which is distal to it and forming the origin of the intussusception. Therefore, it would seem that the presence of a tumor of the intestine or particles of

undigested food might be sufficient in character as to cause a rather intense spasm of the intestine, inducing the formation of intussusception.

The signs and symptoms of intussusception will vary as to the degree of obstruction and strangulation of gut. The predominance of either of the two will determine the severity of the symptoms.

The first symptom is pain. This is typical of partial obstruction of the intestine in that the pain is intermittent and is paroxysmal until complete obstruction, strangulation, or peritonitis has occurred. The onset is usually quite sudden, but may be insidious. The past history will most frequently indicate that the patient has had other attacks similar to this, generally lasting from a few minutes to possibly a few hours and then suddenly relieving itself. In the interim between the paroxysms the patient may lie quite comfortable, but during the paroxysms the leg is usually drawn up and a painful, agonized expression is noted on the face. When complete obstruction develops, gangrene of the intestine possibly takes place and the pain then is both continuous and paroxysmal.

Vomiting.—This sign practically always occurs and varies as to the location of the intussusception. In those cases in which intussusception is in the large intestine, it is much less frequent than in those in which the intussusception occurs at a higher level. It may or may not be fecal in character, depending upon the length of time which the obstruction has persisted.

Constipation.—As a rule, constipation is absent until edema of the affected gut becomes great enough to completely occlude the lumen of the intestine. In adults with intussusception which occurs in the small intestine due to tumor, we frequently find that the stools will not contain any blood until a very late stage has been reached. This was demonstrated by our first patient who at no time during the thirty-six hours of her illness passed any blood at all. However, it may be safely said that usually blood will appear and the closer to the rectum that the intussusception occurs, the earlier the appearance of blood will be noted.

Distention.—This is a symptom which

usually occurs rather late in the course of the illness. The early stages of intussusception are not marked by distention. This is usually present only after complete obstruction exists for some time. In the late stages when general peritonitis intervenes, distention is quite pronounced.

Temperature.—This is usually normal or even subnormal at the beginning of the illness. As strangulation and infection take place the temperature may rise to 102, 103, or 104.

White Blood Count.—This will tend to coincide with the temperature findings in that in the late stages it tends to rise markedly.

Physical Examination.—In the early stages the patient may be seen to be perfectly comfortable between the paroxysms of pain. Paroxysms are accompanied by the drawing up of the leg, twisting in bed, and expressions of pain are prominent over the patient's face. In rather thin individuals peristalsis may be seen. If the intussusception has advanced, however, the abdomen is more or less held rigid and abdominal respiration is diminished. Meteorism, while it is negligible in the beginning of the illness, becomes marked as the condition progresses. The pupils are often dilated and the patient presents a rather pale, apprehensive appearance.

Auscultation of the Abdomen.—As in the case of the other mechanical intestinal obstructions, peristaltic sounds ordinarily are exaggerated until complete obstruction, strangulation or peritonitis occurs. Then there is the quiet abdomen.

Percussion.—The abdomen is only moderately tympanitic until the condition has advanced; due to the edema of the affected gut the obstruction becomes complete and consequently distention with tympany over the abdomen is present.

Palpation.—If the intussusception has proceeded to complete obstruction, strangulation of the gut, or peritonitis has occurred the abdomen is rigid and tender on palpation. Until these changes have occurred no rigidity or tenderness exists during the paroxysms. A sausage-shaped and sometimes rounded tumor may be palpated anywhere in the abdomen, but it is most

frequently felt on the right side. A cystic tumor which can be felt to contract synchronously with the paroxysms of pain is pathogemonic. The right iliac fossa seems empty on palpation if the condition is enterocolic or colic. It may be impossible to palpate the tumor unless the patient is placed in a warm bath or anesthetized.

Rectal Examination.—Many of the cases of intussusception in adults involves the large intestine since it is a more frequent site of polypii. Consequently in many of these cases rectal examination reveals the intussuscepted mass and the examining finger will feel a soft tumor resembling the cervix uterii. If the intussusception has advanced to the descending colon, ballooning of the rectum is present and the rectal mucous membrane feels soft and edematous. When the examining finger is withdrawn quite frequently blood may be found on it.

Diagnosis.—Space does not permit one to go into the various phases of differential diagnosis. However, we might mention in passing, a few of those diseases which may be and frequently are mistaken. First, acute appendicitis; second, acute enterocolitis; third, acute regional ileitis. These three will probably constitute the majority of those acute conditions most frequently confusing one with the true diagnosis of intussusception.

Treatment.—There has been a great deal written concerning the treatment of intussusception. We will consider briefly the preoperative, operative, and postoperative methods of management.

Preoperative Treatment.—Preoperatively we feel that the fluid balance in dehydrated individuals must be maintained by the use of glucose and saline both intravenously and parentally. In cases of late intussusception in which it is suspected that strangulation and infection have taken place, preliminary blood transfusion as a supportive measure is oftentimes good judgment.

Operative Treatment.—In early cases of intussusception, which may be easily reduced, this is probably the best step to take. It may then be determined from palpation

of the intestine as to the pathological reason for the occurrence of the intussusception. Should the causative agent be determined to be a tumor of the small intestine, resection can be undertaken on the spot. If the pathology is in the large intestine it is oftentimes wise to do an exteriorization of the intussuscepted intestine with subsequent resection. In those cases of intussusception which have existed longer than twenty-four hours we may strongly suspect from both observation, palpation, and history that the intussuscepted intestine is not viable. In these latter cases we feel that resection of the mass is preferable without any attempt at reduction. There are three reasons for our saying this: First, at the end of a twenty-four-hour period the intestine is usually gangrenous; second, the causative agent of the intussusception being usually a polypus, resection is likely to be necessary; third, the reduction of the intussusception is conducive to infection of the peritoneal cavity through soilage.

As to the type of resection done that will of course depend upon the type which the operator feels that he is best familiar with. Our own experience has taught us that the basting stitch technique is probably the best in so far as asepsis is concerned.

Postoperative Treatment.—Since the advent of the Wangenstein suction, enterostomy has been more or less discarded. Wangenstein suction has been used in our cases for the first forty-eight to seventy-two hours.

The patient is placed in Fowler's position and sedation is obtained by the use of opiates. Blood transfusions, glucose, and saline are all used to maintain fluid and blood chemistry balance.

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DR. WILLIAM OSCAR BAIRD
President Tennessee State Medical Association

The New President

DR. WILLIAM OSCAR BAIRD was born in Henderson, Tennessee, August 25, 1885. He is the son of the late Dr. John W. Baird who was one of the pioneer physicians of this county and who practiced medicine here for half a century. His mother, Mrs. Mollie C. Baird, is still living and quite active for her age.

In his youth, Dr. Baird attended a private school and, after a few years, entered the West Tennessee Christian College, later known as the Georgia Robertson Christian College. From this institution he received the following degrees: L.I., in 1901; B.S., in 1902; A.B., in 1903. He was also graduated from the commercial department of this college. He then took a special course from George Peabody College in Nashville. Upon completion of a four-year medical course, he graduated from the University of Louisville where he obtained his M.D. degree. During the years 1920-21, he pursued a study of Internal Medicine at Harvard University and the University of Pennsylvania. Upon graduation from the latter institution he was awarded the M.M. Sc. degree.

Dr. Baird has devoted much time to postgraduate study in New York, New Haven, Boston, Philadelphia, New Orleans, St. Louis and Vienna. In order to have a better understanding of tuberculosis, he spent several months as Medical Superintendent of a sanatorium in New Mexico.

During 1907-08, he was acting assistant surgeon of the United States Marine Hospital in Cleveland, Ohio.

In 1915-16, he was associated with the Memphis Board of Health as school inspector. In 1917-18, he was physician to the City Tuberculosis Hospital. In addition to the above appointments, he enjoyed a very large general practice in Memphis.

During the summer of 1918, he enlisted in the medical corps of the United States Army as First Lieutenant and was assigned to the Tuberculosis Section of Internal Medicine. After the armistice, he obtained an honorable discharge. He returned to Memphis to resume his practice, but on account of his health, he was advised by physicians to leave the city for a rest. Acting upon this advice, he then returned to Henderson. After fully recuperating, he preferred to remain here and his professional activities have, for many years, kept him a busy man.

He is a member of the Phi Chi fraternity, various fraternal orders, a bank director, as well as director on other boards.

He has ever been an enthusiastic worker for organized medicine. He has held membership in many societies, viz.: Madison County, Tennessee State, Southern, and American Medical Associations. He has been president of the Tri-County Medical Association. Likewise, he has been president of the West Tennessee Medical and Surgical Association. For many years, he has served in the House of Delegates of the State Society and on the Committee of Education.

In 1911, he was married to Miss Birdie Wardlow, of Ripley, Mississippi. They have one son, William, who is now twenty-one and who is completing a premedical course.

Dr. Baird is one of the outstanding citizens of the town in which he lives. He has a fine personality and is a genial companion to his many friends. He has ever been interested in all matters pertaining to the progress and welfare of his town and is looked upon as one of the most enterprising citizens. The high regard in which his medical friends hold him is evidenced by the prominent positions to which he has been elected.

N. B. H.

THE JOURNAL

OF THE

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H. H. SHOULDERS, M.D., Editor and Secretary

May, 1939

THE ISSUE

SHALL PATIENTS AND DOCTORS RETAIN THEIR FREEDOM OF JUDGMENT IN THE MATTER OF MEDICAL CARE, OR SHALL THIS FREEDOM BE SURRENDERED TO SOME GOVERNMENTAL AGENCY?

EDITORIAL

THE 1939 SESSION OF THE TENNESSEE STATE MEDICAL ASSOCIATION

We are now in position to view the meeting in retrospect.

A total of three hundred eighty doctors registered their attendance. This registration seems relatively small. In reality it is not small. When the meeting is held in one of the larger cities the registration of local physicians easily may run the number over five hundred.

A number of activities were going much of the time. The pediatricians held a meeting. The eye, ear, nose, and throat men held a meeting. There was the general session of the association. The House of Delegates was in session a great deal of the time. Several committees were in session. For example, the Cancer Committee and the Committee on Postgraduate Education.

A doctor who had never served in the House of Delegates before sat through all the sessions of the House in Jackson, and after adjournment said to the writer, "I

had no idea that the Association was carrying on so many activities."

Many activities are being carried on. They are carried on with a singleness of purpose. The single purpose is the delivery of the best medical care possible to the people of the state. To achieve this objective new medical knowledge must be disseminated just as fast as it is produced. As compared with the past, a very short time elapses between the development of a new therapeutic procedure and the application of that procedure in the sickroom or hospital ward.

The Program Committee attempted to feature those scientific subjects in which marked progress has been made. For example, great advances have been made in the treatment of pneumonia. The latest developments in this connection were presented.

Great advances have been made in the subject of pellagra and allied conditions. This subject was featured.

A doctor simply cannot keep himself abreast of the times without attending medical meetings and reading medical literature.

Recognizing that the doctor is the instrumentality through which advances in medical knowledge are made effective in relieving sick people, the Association is, at all times, and in many ways trying to keep the profession up to date.

THE AMERICAN MEDICAL ASSOCIATION SESSION IN ST. LOUIS, MAY 15-19, 1939

Members of the State Association who are not subscribers to the *Journal of the American Medical Association* may not be aware of the fact that the biggest medical meeting that takes place in the United States in any one year will take place in St. Louis, Missouri, May 15-19.

The biggest and best display of scientific exhibits to be seen in the world will be in St. Louis.

The largest and best display of commercial exhibits to be seen at any one medical meeting in the world will be on display.

There will be a scientific program of

broad general interest Monday and Tuesday and the sectional meetings begin on Wednesday morning.

There are many doctors in Tennessee who have never attended a meeting of the American Medical Association.

It has been sometime since the meeting was held in such close proximity to Tennessee. It occurs at a time when doctors need a little change from their daily grind. Tennessee doctors can hardly afford to miss this meeting.

SUGGESTIONS TO DOCTORS

We are in receipt of numerous inquiries as to where information on any subject touching medicine can be had. We are convinced that it is not generally known that the American Medical Association maintains a Box Library Department in the headquarters office building, 535 North Dearborn Street, Chicago. A request by postcard will obtain the reference desired or a box library at very small cost.

At the present moment doctors are called upon at frequent intervals to discuss the attitude of the medical profession on the subject of socialized medicine. The fate of organized medicine will be determined, very largely, by the type of reasoning presented by doctors to their local clubs.

We have endeavored to carry on the editorial page of the JOURNAL authoritative information on the subject to the end that every doctor who is called upon to discuss the subject will be sufficiently familiar with it to give a logical reasoning for the faith that is in him and to defend in a convincing manner the stand taken by the profession of medicine.

It is not the one speech or one article that counts so much. It is the effect of the sum total of all the various discussions that take place that will determine.

ECONOMIC ADMINISTRATION OF HEALTH INSURANCE BENEFITS

In the Organization Section in the *Journal of the American Medical Association* for April 29, there appears a discussion of a recent report issued by the International

Labor Office in Geneva touching the above subject.

We believe this discussion is of sufficient general interest to warrant its reproduction.

"Nothing more illustrative of the dominance of financial considerations over medical science in the administration of sickness insurance has appeared than this report of the International Labour Office.¹ Like most of the publications of this office, it is the result of the work of several commissions of experts. The material has been finally arranged by Walter Pryll, social medical officer of the International Labour Office and for many years active in the administration of sickness insurance institutions in Germany. This domination of financial considerations and the economy which it enforces cannot well be criticized once the system of sickness insurance comes into existence, but its very necessity involves such restrictions on the development of medical science and its application to the large section of the population covered by insurance as to constitute in itself an indictment of the entire principle of sickness insurance.

"Social insurance institutions must base themselves on the principle of economy and, as far as possible, make it govern all their organization and working' (p. 10). 'The funds are therefore compelled to strike the best balance they can between the special needs of those insured with them and the limited means at their disposal' (p. 13). Such a program must restrict the application of many types of medical care, although the funds are required to use 'all the means and methods that have been approved by science and tested in practice, in so far as they are easily available at a reasonable cost' (p. 16).

"We are told that 'it was the principle of economy that led the insurance institutions to engage in preventive work' and that 'prevention is not only easier, but also cheaper than cure and than the cost of com-

¹Economical Administration of Health Insurance Benefits, Studies and Reports, Series M (Social Insurance) No. 15, International Labour Office, Geneva, 1938.

pensation' (p. 16). No illustrations are offered, however, of the extent of such preventive work under insurance or of the results it has produced, and just a little later it is admitted that the funds 'must not use any of their resources for the individual or collective prevention of disease if this form of activity is not expressly prescribed or permitted by law' (p. 19).

"In spite of many cleverly worded explanations intended to show that this economical administration does not injure the practice of medicine, any one accustomed to the professional attitude in a country free from insurance institutions who reads the multitude of restrictions cannot fail to be impressed with the fact that the one dominating thought that must constantly be in the physician's mind is not the welfare of the patient, but the welfare of the insurance funds.

"Advocates of sickness insurance in the United States who visualize great clinics of specialists using highly expensive equipment might read with profit the statement that 'it is sheer extravagance to have a patient very thoroughly examined by a specialist, with the aid of the most expensive apparatus available, before considering whether such a step is necessary or likely to be fruitful, so that in the end such additional knowledge as may be obtained is bought at too great an expenditure of material, time, and money' (p. 35). In no country do insured patients customarily receive any such service.

"There is an entire chapter on the application of the principle of economy to diagnosis, which alternates between emphasis on the necessity of careful diagnosis to detect incipient diseases and numerous instances of the economic obstacles which insurance must maintain that would prevent any such diagnosis. The ideal is set up not only of the diagnosis of the disease, but of the 'psychophysical state of the patient,' of his relations to society, and of the 'prognosis and plan of treatment and cure.' The reader who knew nothing of insurance might think that such a diagnosis was common under insurance, but the compiler of this volume

wisely does not attempt to give any examples.

"When it comes to the application of the principle of economy to therapeutics, we are told that 'the private practitioner may apply any methods of diagnosis and treatment which he considers necessary so far as his patient is prepared to pay the cost, whereas a practitioner who is treating insured persons must follow the principle of economy . . .' (p. 64). We are assured that 'the patient must not be required to put up with second-rate methods of treatment or with cheap measures of inferior quality selected merely on grounds of economy,' but that 'the necessary treatment is that which alone of all the appropriate, adequate, and reasonably priced methods guarantees success and is applied only so far as is necessary to achieve the purpose of the insurance scheme' (p. 72). The assumption that the 'necessary treatment' which 'guarantees success' can be determined would seem to require that the insurance physician have a knowledge that exceeds medical science. The point is repeatedly emphasized that in many cases rest, massage, baths or other treatment not requiring drugs or appliances may be used for reasons of economy. Perhaps this explains the renaissance of the 'naturheiler' and other cults and quacks in Germany under Hitler. The physician is constantly warned against the overuse of drugs. No complaint could be made against such a warning if really based on therapeutic reasons, but the constant emphasis on economy suggests that wholly different reasons actually govern. This is true of the recommendation that only drugs included in the special formularies be used and that proprietaries be avoided. But on this point also the emphasis on the economy angle is far greater than on the scientific.

"That politics even more than economy may guide the actions of the legislators is indicated by the following, which is perhaps the most significant statement in the entire report:

"Nor can the legislative authorities be guided solely by economic considerations when drawing up the regulations concern-

ing benefits. Financial limits may be imposed, beyond which they cannot go. They may have to reject many ideas that are acceptable from the point of view of economy and agree to others that are economically unsound simply because of the relative strength of the various political parties in the government at the time' (p. 19).

"There is an entire chapter on the application of the principle of economy to preventive measures, but no mention is made of immunization, and it would appear that most of these measures would consist of good advice and cooperation with health departments and special institutions for controlling such diseases as tuberculosis.

"One large section is devoted to a discussion of the principle of economy in national laws and regulations. Once more it is difficult to raise a direct objection to most of these regulations, but when they are examined as a whole they give the picture of a legal cage, within which the physician is compelled to practice. He is constantly warned to watch the quantity prescribed, to see that containers are returned and used again, that only certain types of prescriptions that require the least time to compound are used, and so on.

"One source of economy is never mentioned. There is no discussion of the costs of administration, of the palatial offices of insurance carriers—always so much better equipped than the hospitals—or of the swarm of administrators whose expenses must be met out of the certainly inadequate income derived from poorly paid workers.

"More than half the book is devoted to the national laws and regulations designed to enforce the principle of economy in Czechoslovakia, France, Germany, Great Britain, Hungary, Poland, and Yugoslavia. These laws and regulations, with their provisions for the supervision of insurance practitioners and control of the excessive treatment and prescribing, are a complete answer to those who say that there is no restriction by lay authorities of the practice of medicine under insurance. Nearly every country provides for elaborate pricing and statistical compilation of the cost of prescriptions to establish a median or average

cost for each prescription. Any physician who exceeds this cost in any considerable manner is warned and, if he does not conform, is punished. Governments and insurance carriers maintain extensive and costly systems of supervising physicians and 'sick visitors' to check the work of the insurance physician and to see that he does not spend too much in treatment. Everywhere the emphasis is on the cost rather than on quality of medical care.

"The effect of all this on a physician cannot but be to compel him to keep constantly in the forefront of his mind not the principles of the best medical diagnosis and treatment, but the 'principle of economy.' He knows that his professional reputation and livelihood will be destroyed if he oversteps the economy principles much more quickly than if he violates the principles of proper diagnosis and adequate treatment."

THE POSTGRADUATE COURSE IN PEDIATRICS

The postgraduate course in obstetrics, which was conducted in Tennessee and completed last year, was so thoroughly successful that numerous requests are received from all over the country for information concerning conduct of the course.

A postgraduate course in pediatrics is now being given under the same auspices.

On another page of this issue of the JOURNAL is a communication from a committee of doctors who have had the course now being given in which they take occasion to praise the course and the conduct of the instructor who is Dr. Willis H. Thompson.

DEATHS

DR. A. G. KERN

Dr. A. G. Kern, Knoxville; University of Pennsylvania, School of Medicine, Philadelphia, 1901; aged sixty-three; died December 5, 1938.

DR. JAMES A. MOURFIELD

Dr. James A. Mourfield, Lenoir City; Vanderbilt University, School of Medicine,

Nashville, 1883; aged eighty-three; died September 16, 1938.

DR. A. L. LAWSON

Dr. A. L. Lawson, Elk Valley; Hospital College of Medicine, Louisville, 1896; aged sixty-seven; died March 9, 1939.

RESOLUTIONS

DR. G. G. MULHERIN

On January 9, 1939, the Haywood County Medical Society and Haywood County Memorial Hospital staff lost one of their distinguished members in the death of Dr. G. G. Mulherin.

He was sixty-four years old and spent all of his life in Haywood County. He practiced medicine at Nut Bush a number of years before moving to Brownsville to become associated with his brother professionally.

He married Miss Lelly Walker, who died some years ago, leaving him four sons. He demonstrated his skill as a father in rearing four exceptionally fine young men.

In the loss of Gill Mulherin, Brownsville and Haywood County lost one of its most useful and public-spirited citizens, he being a thirty-second degree Mason and Shriner, a member of the Rotary Club and Chamber of Commerce. He was also local surgeon for the Louisville and Nashville Railroad. He was a member of the Haywood County Medical Society, Tennessee State Medical Association, and Southern Medical Society. He attended the Midsouth Postgraduate Medical Assembly at every meeting.

In recognition of his faithful service in the practice of medicine and the noble, faithful services he rendered while he lived and practiced, the Haywood County Medical Society and staff of the Haywood County Memorial Hospital offer the following resolutions:

"Be It Resolved, That the Haywood County Medical Society deeply regret the early and sudden passing of one of our members as he was approaching the climax of a distinguished career.

"Be It Further Resolved, That we extend

to his sons and brothers and other connections our sympathy and condolence.

"Be It Further Resolved, That a copy of these resolutions be sent to his sons, a copy to the secretary and editor of the STATE MEDICAL JOURNAL, and a copy be spread on the records of our societies."

(Signed) JOHN M. CHAMBERS,
R. T. KEETON,
T. C. CHAPMAN.

NEWS NOTES AND COMMENTS

Jackson, Tenn., May 5, 1939.

Dr. John M. Lee, Chairman
Committee on Postgraduate Instruction in
Pediatrics

420 Sixth Avenue, North
Nashville, Tennessee

Dear Doctor:

We are just completing the course on postgraduate instruction in pediatrics conducted by Dr. Willis H. Thompson and we desire to express here our appreciation of his teaching. Dr. Thompson is well liked in this community both by the profession and the laity with whom he has come in contact. He is unassuming in manner, yet ever ready and interested in imparting the knowledge at his command in popular lectures to the Parent-Teacher Association and other civic bodies, but especially in his lectures to the class.

These have been remarkably illuminating and thorough, rendering his course highly instructive and well presented. His examinations of subjects before the class have exhibited a wide range of clinical practice and experience thoroughly assimilated and classified into a comprehensive knowledge of the subject which impresses his hearers with his efficient mastery of his chosen field.

We highly recommend him socially and professionally and bespeak for him a successful stay in our state.

"Be It Resolved, That a copy of this letter be sent to Tennessee State Medical Association, Vanderbilt University, Univer-

sity of Tennessee, Tennessee State Board of Health, and Commonwealth Fund."

Very truly yours,

(Signed) W. G. SAUNDERS, M.D.,
HERMON HAWKINS, M.D.,
JOHN E. POWERS, M.D.,
Committee.

LEGISLATION AFFECTING THE SALE OF BARBITURATES

The 1939 legislature passed an act regulating the sale of barbiturates, their derivatives, and compounds. The enforcement of this Act is placed in the hands of the Board of Pharmacy of the State of Tennessee.

We have received a copy of the regulations promulgated by the board, and for the information of the medical profession these regulations are given herewith.

These regulations in no way interfere with the legitimate prescribing of the preparations concerned.

We are furthermore assured that the regulations may be modified if found to work a hardship on the physician or upon those who are in need of the drug.

Regulations for the Enforcement of Chapter No. 164, Public Acts of 1939

A supplement to the Pharmacy Act regulating the sale of barbital, barbituric acid, also known as the malonylurea, or any derivative or compounds or any preparations or mixtures thereof possessing hyponic properties or effects.

Preamble

It is clearly the intent of Chapter 164, Public Acts of 1939, to regulate the dispensing of barbital and its preparations in such a manner as to prevent their harmful effects. The medical profession appears to be convinced that these drugs have a tendency to become habit-forming and their continued use results in addiction which is difficult to overcome. The spirit of this law as well as its letter places upon physicians and pharmacists the responsibility to so restrict the dispensing of these drugs as to protect the public against the possibility of becoming addicted to their use. At the same time it is recognized that the legiti-

mate use may be most helpful therapeutically where such use is indicated.

It will, therefore, be the policy of the Board of Pharmacy of the State of Tennessee, which is charged with the enforcement of this Act, to so interpret its provisions as to cause as little interference as possible with legitimate prescribing and dispensing of barbital and its preparations, and at the same time prevent as far as possible the promiscuous and unlawful dispensing of such drugs. The good faith of the physician in prescribing and of the pharmacists in dispensing barbital and its preparations must be depended upon to carry out the intent of this Act.

Regulation No. 1—Scope of the Act

No barbital, barbituric acid, malonylurea, or other compounds, derivatives or preparations thereof may be dispensed or sold at retail to any person except upon the written prescription of a duly licensed physician, dentist or veterinarian.

For the purpose and intent of this Act it shall be understood that a prescription of a duly registered physician, dentist or veterinarian transmitted by telephone to a duly registered pharmacist shall be accepted as a written prescription.

All prescriptions for barbital, barbituric acid, malonylurea, or other compounds, derivatives or preparations, as defined in this Act, shall contain the patient's name and address and the prescribing physician's name and address.

Regulation No. 2—Renewal of Prescriptions

Prescriptions for barbital and its preparations as defined in Chapter 164, Public Acts of 1939, shall not be renewed if the physician, dentist or veterinarian prescribing these drugs has written upon the prescription the words "Not to be renewed" or words to that effect. If the prescription bears upon its face the printed words "Not to be renewed" or words to that effect, such printed statements shall have the same force as the written statement of a physician, dentist or veterinarian.

The constant or very frequent renewal of prescriptions for the drugs regulated in Chapter 164, Public Acts of 1939, without the knowledge or consent of the physician, dentist or veterinarian writing the original prescription, must be considered a violation of the spirit of the law. This regulation should not be interpreted to prohibit frequent renewal of prescription for barbitol and its preparations as defined in Chapter 164, Public Acts of 1939, if such prescriptions are known to be intended for persons afflicted with epilepsy and other nervous disorders requiring frequent use of such drugs. In all cases involving the renewal of prescriptions it is incumbent upon the pharmacist to determine that such renewals are requested in good faith and not for the purpose of evading the Act.

Regulation No. 3—Filing of Prescriptions

Prescriptions for barbitol and its preparations must be preserved by the pharmacist by filing the original in his regular prescription file. It is not necessary to keep a separate file of these prescriptions, but they must be kept available for inspection in the regular prescription file of the pharmacy. They should not be kept in the same file as narcotic prescriptions.

Regulation No. 4—Compounding of Prescriptions

All prescriptions for barbitol and its preparations must be compounded by a registered pharmacist or under the supervision of a registered pharmacist.

Regulation No. 5—Sales of Barbitol and Its Preparations

Sales of barbitol and its preparations by manufacturers to wholesalers, retailers or medical practitioners; by wholesalers to retailers or to medical practitioners; and by one retailer to another, when carried on in good faith and not for the purpose of evading the provisions of this Act, are permitted without the use of a prescription.

WOMAN'S AUXILIARY

President-----Mrs. Matt Murfree
Murfreesboro
President-elect-----Mrs. W. T. Braun
Memphis
Press and Publicity-----Mrs. R. Z. Linney
Madison

The twelfth annual meeting of the Tennessee Woman's Auxiliary was held in Jackson, Tennessee, April 11 and 12, with the recently organized Madison County Medical Auxiliary as hostess. Mrs. W. O. Baird, president, and Mrs. Jere Crook, general chairman. The program was carried out per schedule, with the preconvention board meeting being called to order at 3:00 o'clock with Mrs. H. E. Christenberry presiding.

The board dinner was held at the Southern Hotel at 7:00 o'clock. At the invitation of Dr. H. H. Shoulders, editor of the JOURNAL and speaker of the House of Delegates of the American Medical Association, and Dr. Tom R. Barry, president of the Tennessee Medical Association, we were



MRS. MATT MURFREE
President

guests at the open session and heard the address of Dr. Barry and Dr. Rock Sleyster, president-elect of the American Medical Association.

At 9:00 o'clock, April 12, the general session was called to order, the president presiding. Following the business session the auxiliary membership and guests were entertained at a lovely luncheon at the New Southern Hotel. At this luncheon membership cups were awarded by Mrs. B. F. Byrd, the Floyd cup going to Rutherford County and presented to Mrs. Matt Murfree. A beautiful new cup, the Christenberry cup, was presented to Knox County. After installation of new officers they met on a post-convention board meeting, which was presided over by the new president, Mrs. Matt Murfree. The final social function was the annual dinner held at the County Club, with the president's pin being awarded to the retiring president, Mrs. Christenberry, by Mrs. Everett of Memphis. Mrs. Murfree introduced new state officers and chairmen. National delegates appointed were as follows: Mrs. B. F. Byrd, Nashville; Mrs. H. B. Everett, Memphis; Mrs. W. T. Braun, Memphis; Mrs. H. E. Christenberry, Knoxville. Alternates were: Mrs. Jere Crook, Jackson; Mrs. W. O. Baird, Henderson; Mrs. Edward Clay Mitchell, Memphis; Mrs. James McClaran, Jackson.

MEDICAL SOCIETIES

Davidson County:

April 18 — Tuberculosis symposium: diagnosis—clinical, Dr. Hollis Johnson; roentgenological, Dr. H. S. Shoulders. Discussion by Dr. W. S. Rude, chairman of State Tuberculosis Committee.

April 25—"Surgical Treatment," by Dr. A. Blalock. Discussion by Drs. R. R. Crowe and M. B. Davis.

May 2—Breast tumors—benign, Dr. Bernard Weinstein; malignant, Dr. Rollin Daniel. Discussion by Dr. J. A. Kirtley.

May 9—"Nephritis," by Dr. David Hailey. Discussion by Dr. J. O. Manier.

Papers scheduled to be read:

May 16—"Hypernephroma of the Kidney," by Drs. H. C. and L. R. Gayden. Discussion by Dr. P. G. Morrissey.

"Fractures and Fracture Dislocations of the Spine," by Dr. E. M. Regen. Discussion by Dr. J. J. Ashby.

May 23—"Gastric and Duodenal Ulcers in Children Under Three Years of Age," by Dr. Joe Strayhorn. Discussion by Dr. James Overall.

May 30—"Management of Tuberculosis Complicating Pregnancy," by Drs. Hollis Johnson, J. C. Burch, and Sam Cowan. Discussion by Dr. Milton S. Lewis.

The academy will adjourn for the summer. The next meeting will be held on September 5.

Dyer, Lake, and Crockett Counties:

The Dyer, Lake, and Crockett Counties Medical Society met in regular monthly session May 3, 1939. Scientific program:

1. "Metrazol and Insulin Shock Treatment in Certain Mental Diseases," by Dr. Dick C. McCool, Memphis.

2. "When to Suspect a Brain Tumor: The Early Signs and Symptoms of Intracranial Tumors and the X-ray Evidence of Their Presence," by Dr. R. Eustace Semmes, Memphis, and Dr. Francis Murphey, Memphis.

(Signed) C. L. DENTON, *Secretary*.

Greene County:

The Greene County Medical Society met at the Andrew Johnson clubhouse, Tuesday, May 2.

Dr. R. B. Gibson read a paper on "Thrombophlebitis." Dr. R. S. Cowles opened the discussion.

Dr. Claude Fox read a paper on "Post Hoc Ergo Propter Hoc in Medicine." Dr. C. B. Laughlin opened the discussion.

The following members were present: Drs. R. B. Gibson, M. A. Blanton, L. E. Dyer, L. E. Coolidge, R. S. Cowles, Hal Henard, I. E. Phillips, H. W. Fox, Claude Fox, C. B. Laughlin, J. E. Kite, N. H. Crews, and W. T. Mathes.

(Signed) I. E. PHILLIPS, *Secretary*.

Hamilton County:

The following papers are scheduled to be read:

May 18—Meeting held at Pine Breeze Sanitarium.

May 25—"Indications for Drainage of the Common Bile Duct," by Dr. E. Dunbar Newell.

June 1—"The Progress of Cancer Research and Treatment," by Dr. S. S. Marchbanks.

Hardin, Lawrence, Lewis, Perry, and Wayne Counties:

The Five-County Medical Society met on April 25 in Savannah. The following papers were read:

"Vitamin Therapy," by Dr. Henry B. Gotten, Memphis.

"Malunited Fractures," by Dr. Willis C. Campbell, Memphis.

"Pyelitis in Children," by Dr. Edward Clay Mitchell, Memphis.

The next meeting will be held in Waynesboro on May 30.

Knox County:

April 18—"Management of Common Eye Conditions in the Field of General Practitioner," by Dr. Edgar L. Grubb. Discussion by Dr. W. W. Potter.

April 25—"The Leukemias," by Dr. Ralph H. Monger.

May 9—"Perineorrhaphy," by Dr. Richard A. Barr, Nashville.

Shelby County:

May 2—"Case Reports: Infection Due to Human Bite," by Dr. Webb Key.

"Polyneuritis in Pregnancy," by Dr. J. M. Brockman.

"Management of Patients with Incurable Cancer," by Dr. J. C. King.

"Fractures of the Ankle," by Dr. H. B. Boyd.

Sullivan-Johnson Counties:

The Sullivan-Johnson Counties Medical Society met in Kingsport on May 3. Dr. C. J. Reynolds of Bluefield, West Virginia, spoke on "Prostatism: Its Cause and Treatment." Dr. Reynolds was very explicit and

gave an excellent presentation of this subject.

(Signed) C. F. N. SCHRAM, M.D.,
Secretary.

OTHER MEDICAL SOCIETIES

The Tennessee Valley Postgraduate Medical Assembly has issued its fifth annual invitation to the profession. The meeting will be held in Knoxville, June 28, 29, 30. The guest speakers include the leaders in medicine from all over the eastern half of the United States. Full programs will be mailed at a later date. Those desiring advance information on the meeting should write Dr. Jesse Hill, Secretary, Doctors Building, Knoxville.

The West Tennessee Medical and Surgical Association will meet in Huntingdon on May 25.

The following physicians will appear on the program: Carey Bringle, Memphis; Sam T. Parker, Jackson; John Jackson, Dyer; L. W. Edwards, Nashville; J. O. Manier, Nashville; James Brockman, Memphis; W. L. Rucks, Memphis; J. S. Speed, Memphis.

The Middle Tennessee Medical Association will meet in Columbia on May 25 and 26. The tentative program is as follows:

"Pneumothorax in General Practice," by Dr. W. W. Pyle, Franklin.

"Diarrhea in Infants and Children," by Dr. O. Reed Hill, Lebanon.

"Auricular Fibrillation: Its Significance and Management," by Dr. William R. Cate, Nashville.

"Surgery of the Gall Bladder," by Dr. Barney Brooks, Nashville.

Presidential address by Dr. Sam Fentress, Goodlettsville.

"Toxemias of Pregnancy," by Dr. M. S. Lewis, Nashville.

"Sulfanilamide and Sulfapyridine and Report of Its Use in Smith County," by Dr. Thayer S. Wilson, Gordonsville.

"Fracture of the Neck of the Femur," by Dr. J. J. Ashby, Nashville.

"A Most Interesting Case Report," by Dr. M. A. Beasley, Madison.

"A Plea for More Careful Interpretation of the Symptoms in Coronary Disease," by Dr. T. J. Stockard, Lawrenceburg.

"William C. Gorgas," by Dr. K. S. Howlett, Franklin.

"Headache," by Dr. W. de Gutierrez-Mahoney, Nashville.

"Diagnosis of Pulmonary Tuberculosis," by Dr. Hollis Johnson, Nashville.

"Duodenal Stasis," by Dr. Elkin L. Rippey, Nashville.

"The Serum Treatment of Pneumonia," by Dr. E. C. Mason, Quebec.

VANDERBILT MEDICAL SOCIETY

MARCH 3, 1939

1. "Botulism: A Case Report," by Dr. Pearl Zink.

Patient was a fifty-two-year-old white woman with a history of ingestion of home-canned okra and beans four days before admission, followed shortly by headache, nausea, hoarseness, diplopia and dysphagia, and with neurological examination showing paralysis of the third, fourth, fifth, sixth, tenth, and eleventh cranial nerves. She was given intravenous and subcutaneous fluids, prostigmine and physostigmine without appreciable effect, and died of respiratory paralysis seven days after eating contaminated food. Her husband, who also ate the food, vomited soon afterward, and subsequently showed no symptoms of botulism. The patient was presented as a typical picture of botulism. Investigations to determine the presence of toxin in the food eaten by the patient are being conducted at the present time.

This case was discussed by Dr. A. E. Keller.

2. "Improved Method for Bio-Assay of Vitamin E," by Dr. Karl E. Mason and Mr. W. L. Bryan.

An improved dietary procedure, permitting preparation of rats uniformly and critically depleted of vitamin E from the beginning of life, has reduced the time and labor involved in the bio-assay procedure to approximately one-third that is usually nec-

essary. The period of assay has also been shortened by establishing a more satisfactory criteria of response, based upon the weight of the uterine contents and the number of living fetuses present at the sixteenth day of gestation. Application of these methods to the investigation of problems relating to the physiology of vitamin E, and to the histopathology of E deficiency, were outlined and discussed.

This paper was discussed by Drs. Morton Mason and Walter E. Garrey.

3. "The Processes Which Terminate the Anesthetic Action of Barbituric Acid Derivatives," by Drs. Thomas C. Butler and Milton T. Bush.

The numerous derivatives of barbituric acid differ strikingly in their duration of action. The rate of renal excretion may account for some differences, but excretion is not an important factor in the inactivation of the short-acting compounds. Many of them cannot be recovered in the urine in any form. The chemical nature and site of their degradation is unknown. N-methyl barbituric acids are demethylated in vivo, and this reaction is in part responsible for their characteristic short duration of action. The accumulation of the less active demethylated compounds may produce a residual action of long duration.

This paper was discussed by Drs. Paul Lamson and Alfred Blalock.

VANDERBILT MEDICAL SOCIETY

APRIL 7, 1939

1. "A Case of Boeck's Sarcoid," by Dr. Smith Hopkins.

A fifty-two-year-old woman complaining of an itching skin eruption of three years' duration and exertional dyspnea of three months' duration. On examination skin showed discrete, shiny papules involving all areas except the face, palms of the hands, and soles of the feet. There was marked enlargement of the mediastinal glands on examination and X-ray. The liver and spleen were enlarged. Left epitrochlear was markedly enlarged and biopsy showed changes compatible with Boeck's sarcoid. There was a moderate leukopenia and total

serum proteins ranged from 9.6 to 11.6 grams. Skin tests were negative with tuberculin and Frei antigen.

This case was discussed by Drs. Hugh J. Morgan and Ernest W. Goodpasture.

2. "A Study of Pathogenesis and Immunity of Meningococcus Infection in Chick Embryos," by Dr. G. John Budgingh and Miss Alice Polk.

A strain of meningococci obtained directly from the spinal fluid of a clinical case has been propagated in the chick embryo amniotic fluid in serial transfer for two and one-half years. Besides being a suitable medium for the propagation of the micro-organism the chick embryo is susceptible to infection by it. By the use of embryos of the proper age and utilizing various routes of inoculation the lesions encountered in human meningococcus infection (viz., a septicemia, sinusitis, pneumonia, and meningitis) can be reproduced. Detailed study of the development of the infection in chick embryos indicates that the meningococcus invades the meninges via the blood stream and not by direct extension from the nasopharynx.

A study of the protective action of polyvalent antiserum, commercially prepared, against the experimental infection showed that only about forty-five per cent protection was conferred. Using monovalent, homologous antisera, eighty per cent protection was conferred. No cross protection resulted by the use of different strains of meningococci.

This paper was presented by Dr. Budgingh and was discussed by Drs. Ernest W. Goodpasture, Katherine Dodd, Hugh Morgan, and John Youmans.

3. "Relief of Obstructions of the External Respiratory Passages by Plastic Operative Procedures," by Dr. Beverly Douglas.

Obstructions of the external respiratory passages may be of many varieties, but are always distressing and sometimes fatal. Those which the plastic surgeon is common-

ly called upon to treat are: (1) nasal, including collapse of the ala, scarring in the vestibule or displacement of the nasal bones or superior maxilla from fracture; (2) labial, which exist immediately and usually temporarily following closure of harelips, at a time when the nasal passages are usually temporarily blocked; (3) linguo-epiglottic which accompany congenital micrognathism, a condition in which the mandible is small and in retroposition and the tongue consequently falls backward on inspiration and acts as a ball valve at the glottis. Original plastic operations and procedures which serve for the permanent relief of these conditions were outlined. A case of micrognathism was described in which a simple operation designed to fix the tongue forward appeared to be lifesaving.

ABSTRACTS OF CURRENT LITERATURE

ANESTHESIA

By HUGH BARR, M.D.
Medical Arts Building, Nashville

Preanesthetic Drugs: An Anesthetist's Viewpoint. Botsford, California, and Western Medicine, February, 1937.

Various forms of opium used as preanesthetic medication have never been superseded by any newer drug, but its action has been aided by such adjuvants as the barbiturates, avertin, and paraldehyde. Idiosyncrasy occurs to morphine in only two per cent, while to barbiturates it is more frequent. A test dose of a barbiturate should be given the night before and the proper dose be given about an hour before operation.

The addition of atropine to morphine is to be condemned, as it is antagonistic, for it stimulates respiration, interfering with abdominal relaxation. The only anesthetic that requires a preliminary dose of atropine is chloroform where a stimulant is needed. Scopolamine, once in disfavor due to deaths resulting from an impure product, is now being used in combination with morphine acting nicely as a sedative. Barbiturates are very useful in allaying fear and dread of operative procedures, as the patient is either unconscious or indifferent.

OBSTETRICS AND GYNECOLOGY

By HAMILTON V. GAYDEN, M.D.
Suite 234 Doctors Building, Nashville

Prevention and Treatment of Postoperative Thrombophlebitis. N. W. Baker and V. S. Counseller. *American Journal of Obstetrics and Gynecology*, Vol. 37, April, 1939, p. 644.

No satisfactory routine procedure has been devised for the prevention of postoperative thrombophlebitis. Measures are discussed which will tend to minimize the three essential factors of local vein injury, slowing of venous blood flow and alteration in the coagulability of the blood. The author states that postoperative thrombophlebitis may be successfully treated in the acute stage by adequate elevation of the limb and the use of extensive hot wet packs locally. It is advisable to get the patient up as soon as the temperature has been normal for three days, swelling below the knee has subsided, and local tenderness in the involved veins has disappeared. As soon as the patient is out of bed it is necessary to equip him with an adequate leg support, and for this a heavy pure rubber bandage is recommended. The bandage can usually be discarded in from three to twelve months without the subsequent appearance of any signs or symptoms of chronic venous insufficiency. Once the clinical picture of acute postoperative femoral or iliac thrombophlebitis has appeared, the danger of fatal pulmonary embolism is small.

OPHTHALMOLOGY

By ROBERT J. WARNER, M.D.
Doctors Building, Nashville

The Treatment of Retinitis Pigmentosa by Lauber's Method. I. A. Vasserman. *Archives of Ophthalmology*, April, 1939.

Lauber established by clinical and experimental studies that there is a definite relation between the diastolic pressure in the retinal arteries and the intraocular pressure. The decrease of the intraocular tension is favorable for the diastolic pressure and the nutrition of the retina, while the increase of the intraocular tension without a corresponding increase of the general blood pressure is unfavorable for the circulation of the retina, and an atrophy of the optic nerve or retinitis pigmentosa may result. In order to maintain the normal equilibrium between the diastolic retinal and intraocular pressure, Lauber recommends that the intraocular tension be reduced with the administration of pilocarpine hydrochloride or by cyclodialysis and that the blood pressure be increased by injections of caffeine or strychnine.

Vasserman treated eleven patients (twenty-one eyes) from eighteen to fifty-one years of age who were suffering from retinitis pigmentosa, the period

of observation being from three to seven months. The functional tests of the eye and measurements of the blood pressure were done before, during, and at various times after the treatment. A two per cent solution of pilocarpine hydrochloride was instilled into the eye three days preceding the injections. One cubic centimeter of a solution of strychnine in a concentration of 1:1000 was injected subcutaneously daily up to thirty injections; the pilocarpine hydrochloride was instilled simultaneously.

The intraocular tension and its daily variations were found to be higher in eyes with retinitis pigmentosa than in normal eyes; it was decreased under the influence of miotics and its daily variation curve was more regular. The blood pressure was low in the majority of the patients. In those patients in whom it could be raised by the injection of strychnine, the therapeutic result was good. The near and distance vision was improved in nearly all patients, while the visual fields were improved in only three. Recent infections responded to the treatment more readily than the infections which had been neglected.

Vasserman concludes that simultaneous reduction of the intraocular tension and the increase of the blood pressure give favorable results in the treatment of retinitis pigmentosa; further observations are necessary. It was easier to reduce the intraocular tension than to increase the blood pressure.

PEDIATRICS

By JOHN M. LEE, M.D.
Doctors Building, Nashville

The Use of Sulfapyridine in Primary Pneumococcal Pneumonia and in Pneumococcal Pneumonia Associated with Measles. Horace L. Hodes, M.D., et al. *The Journal of Pediatrics*, 14: 417 (April), 1939.

Seventy-one children with pneumococcal pneumonia were treated with sulfapyridine and all recovered. Thirty-three had primary pneumonia and thirty-eight had pneumonia associated with measles. In every case the pneumonia was demonstrated by X-ray and typable pneumococci recovered from the nasopharynx. The patients were from four months to nine years of age.

The dosage of the drug varied from 1.2 gram to 6.0 grams in twenty-four hours, depending upon the age, given after the manner of Barnett. The drug was given every six hours and continued until the temperature had been normal from five to eight days. In some cases the total twenty-four-hour dose was given at once on admission.

The temperature became normal in all of these cases in from thirty to forty hours regardless of the day of illness on which treatment was started. The clinical improvement and fall of the tempera-

ture following the use of the drug was just as prompt and as striking in the measles cases as in the cases of primary pneumonia.

Many of the children had anorexia and a few had nausea and vomiting, none being severe enough to stop the drug. Six developed mild forms of granulocytopenia that recovered promptly when the drug was withdrawn. Gross hematuria appeared in two cases and cleared when the medication was stopped, leaving no evidence of renal damage. A morbilliform rash on the face, trunk, and extremities with fever and vomiting disappeared eight hours after sulfapyridine was discontinued in one patient. It is suggested that these reactions might have been avoided by the use of smaller doses.

The authors feel that the general use of sulfapyridine in pneumonia is not unwise, but the possible ill effects of the drug must be kept in mind. They advise leucocyte counts, hemoglobin determinations and urinalyses on all patients under treatment every other day in order to detect untoward symptoms as early as possible.

The essential details of each of the cases in this study are set out in tables.

ROENTGENOLOGY

By FRANKLIN B. BOGART, M.D.
Medical Arts Building, Chattanooga

The Value of Radiation in the Treatment of Carcinoma of the Breast. L. G. Allen. Radiology, Vol. 32, No. 1, p. 63, January, 1939.

While there is still some disagreement as to the exact place of irradiation in treatment of cancer of the breast, practically all will agree that it is of increasing value.

Surgery is acknowledged to occupy a most important place in the treatment of cancer of the breast. Combined statistics from many sources show:

FIVE-YEAR SURVIVALS

Untreated cancer of breast, 12.0 per cent; average after operation only, 29.4 per cent; average after pre and postoperative irradiation as well as operation, 51.3 per cent.

Portmann's statistics on a group operated on by one person, when classified as to type, show no better results in the early Group I, where the lesion is small and definitely restricted to the breast, when operation and irradiation are used, than when operation alone is used. The danger in withholding irradiation from these cases lies in the fact that an accurate clinical diagnosis is often difficult, and a case that appears to be Group I may fall in

Group II. In the other groups Portmann's findings were as follows:

FIVE-YEAR CURES

Group II—Operation only, 52.4 per cent; operation and irradiation, 76.2 per cent. Group III—Operation only, 2.7 per cent; operation and irradiation, 8.1 per cent.

Unfortunately at least eighty per cent of cases coming for treatment are in Groups II or III.

While statistics regarding the relative value of pre and postoperative irradiation are not available in sufficient quantity or over a sufficient time to allow an accurate evaluation, the present-day opinion of many experienced workers is that both should be used, except perhaps in the early cases, where preoperative diagnosis is difficult.

The application of Pfahler's fractional dose method and saturation technique and Coutard's theory of periodicity have improved results. In cases that are inoperable, and in tumors that are very sensitive to irradiation, the best results may be obtained by irradiation alone. In the average case, as far as radio sensitivity is concerned, and in very radio resistant tumors, surgery and irradiation should be combined.

SURGERY—GENERAL AND ABDOMINAL

By BATTLE MALONE, II, M.D.
1400 Monroe Avenue, Memphis

Appendicitis in Children. Charles E. Farr, M.D. Surgical Clinics of North America, April, 1939.

Every doubtful case of appendicitis in childhood should have the benefit of operation. Since no way of estimating the extent of the lesion or the probability of its unfavorable progression is known, we gamble with death if we wait for a certainty in diagnosis. Prophylactic appendectomy in young children, while considered extreme, would save from 30,000 to 40,000 lives yearly. This, of course, includes deaths in adults.

The history in a typical case in a child is similar to that of an adult. Local tenderness is the most nearly diagnostic sign we have. Rebound tenderness and rigidity are signs of more advanced disease. Tenderness by rectal examination may be helpful, but this must be done very gently. This will also rule out fecal impaction. Laboratory findings: a moderate increase in the total white count and a considerable increase in the polymorphonuclear are the rule.

Variations from the typical case may show very high to normal temperatures and high or low blood

counts. Red and white cells in the urine do not rule out appendicitis. The history with children may be unreliable because of fear of being put to bed or of medication.

The differential diagnosis is not difficult. Acute mesenteric lymphadenitis is often confused and differentiation is almost impossible unless the appendix has previously been removed. Unless the child can be kept under accurate and constant observation this diagnosis is hazardous. It is usually safer to advise appendectomy. Early pneumonia and contagious diseases at the onset may resemble appendicitis. Other abdominal conditions such as intussusception, gastroenteritis, pyelitis, stone in kidney or ureter, and ovarian cyst may be confused with acute appendicitis. A careful evaluation of the history and physical signs will usually rule out these conditions.

Chronic appendicitis is much more controversial. Chronic constipation, cyclic vomiting, acidosis, pyelitis, malnutrition—all may be associated with or result from chronic appendicitis. Roentgenograms may be helpful in making the diagnosis.

In the early acute case no preliminary treatment is given. If dehydration is present an infusion of five per cent glucose in saline is given. Open ether is advised for the anesthetic, although avertin in small doses may be given as an adjunct. Careful handling during operation is stressed and in most cases a McBurney incision is preferable.

Postoperatively the child should be largely in the hands of the pediatrician. Fluids by vein or hypodermoclysis are often invaluable. If a pelvic abscess should develop it will frequently rupture into the rectum or drain through the abdominal wound and should not be explored too early.

UROLOGY

By TOM R. BARRY, M.D., F.A.C.S.
By G. A. WILLIAMSON, JR., M.D.
Medical Building, Knoxville

Urological Complications in Malignant Disease of the Rectum. Charles J. E. Kickham. *Journal of Urology*, April, 1939.

There are 297 males and 143 females included in this investigation. The age varied from twenty to over eighty, the majority being between fifty and seventy.

Of the operable group 30.4 per cent of the males and 36.7 per cent of the females complained of urinary symptoms. Urgency, frequency, and dysuria were the most common symptoms complained of. In ninety-six cases the malignancy was on the anterior wall of the rectum and invaded the blad-

der or prostate. Where the malignancy was definitely adherent to the prostate, fifty per cent had bladder difficulty. The malignant disease is prone to invade the periureteral tissue, and cause obstruction of the upper urinary tract with resultant hydronephrosis and pyelonephritis. This occurred in 47.7 per cent of the post-mortem cases. There was sufficient renal damage to cause death in forty-nine of the series of cases.

In operating rectal malignancy the ureter may be injured or incised. The bladder may be opened, resulting in a fistula, or the membranous urethra may be injured.

Disturbance of vesical function, due to injury of the nerve supply, is a frequently encountered urological complication in operations for rectal malignancy. The sympathetic nerves are possibly subject to trauma in the course of the abdominal stage, and the parasympathetic injury occurs more frequently in the perineal stage, resulting in a cord bladder. The supervention of sepsis in these cases with fistulae or faulty innervation of the bladder may prove fatal regardless of drastic measures to combat it.

Neurogenic disturbance was absent in the female, but occurred in 44.8 per cent of the males. Impotence was a universal complaint following operation, probably due to neurogenic disturbance of the blood vessels and muscles.

The authors are of the opinion that a complete preoperative urological investigation should be routine in all rectal malignancies. Their study of the urogenital system will detect any local invasion of the growth, bladder neck obstruction, and urosepsis which might prove to be a postoperative hazard.

Case Report: Snake in the Urinary Bladder

A cursory review of the American literature records one case similar to ours.

Geyerman reported the cystoscopic removal from the bladder of a decapitated snake that had been introduced into the urethra for the relief of an assumed bladder ailment.

Our case was that of a white male sixty-four years of age and apparently of sound mind. He was a coal miner by occupation. He stated "that twenty-four hours previously while sitting in the field he caught a small ground snake and introduced it alive into the urethra with the result that it disappeared from sight." A few hours following this he experienced severe dysuria, frequency, and hematuria, for which he was seeking immediate relief.

He was instructed to void in two glasses, both of which were the color of bright blood and of

unpleasant odor. Examination of the first glass revealed a small snake five inches in length and apparently intact except part of the head which was missing.

Search for the missing member through a cystoscope revealed an acutely reddened mucosa throughout, but no evidence of the culprit.

Persistent questioning as to the reason for such an act failed to enlighten us, nor was he able to describe the sensation experienced by the journey of the reptile through the urethra.

REFERENCES

1. Geyerman: J. A. M. A., April 24, 1937.

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ACUTE INTUSSUSCEPTION IN INFANCY*

PHILIP C. ELLIOTT, M.D., Nashville

INTUSSUSCEPTION is probably the commonest form of intestinal obstruction in infancy. And since the mortality in the untreated is practically 100 per cent and still approximately fifty per cent even in the treated, it would seem to be a subject well worth the full consideration of all physicians.

By intussusception we mean a telescoping or invagination of a segment of bowel into an adjacent section. Practically all are from above downward; that is, proximal into distal gut. Agonal types occur, but are not of practical importance. A simple classification of the vital type consists of: First, ileocecal, in which the ileocecal valve invaginates into the ascending colon carrying the appendix and cecum with it, but with the ileocecal valve continuing as the apex of the intussusception. This type comprises about fifty per cent of all types. Second, ileocolic, in which a portion of the ileum above the ileocecal valve is telescoped into the colon, carrying along with it, in the course of its progress, the cecum and appendix. This comprises about thirty per cent of the cases. Third, colic, and fourth, enteric, each comprising about ten per cent of the cases, and as the names imply consist of cases in which the invagination is limited to either the colon or the small intestine. Rarely compound or multiple infoldings occur.

Of prime importance in the consideration of intussusception is an early diagnosis. This throws the main responsibility on the general practitioner and the pediatrician who are most likely to first see the child. Occasionally an adult develops the condition, but eighty per cent of cases occur in patients under two years of age. After the fifth year but few cases are seen. The youngest case reported was two days old, but it is seldom found in the first few weeks. Fifty per cent of all cases are between the fifth and seventh months.

Males are affected more frequently than females, approximately three to one. Single children seem to be more susceptible.

Seldom does one find a history of previous illness. The children are generally well developed, well nourished, and in perfect health till the sudden onset of symptoms of bowel obstruction.

When we come to the pathogenesis of this condition we are still in the main on theoretical ground. In a small group a quite definite cause is present. For instance, at times we find a tumor in the bowel, papilloma, lipoma or cyst which acts definitely as a foreign body. The bowel in trying to forcibly expel it causes an invagination at that point. Similarly in rare cases an appendix or Meckel's diverticulum may invert and, acting as a foreign body, start an intussusception. Malignant tumors are much less likely to cause such a process since there generally is scarring and adher-

*Read before the Tennessee State Pediatric Society, Jackson, April 11, 1939.

ence to the surrounding tissues with narrowing of the lumen and dilatation above.

Marked hyperplasia of the lymphoid structures in the intestinal walls, hemorrhages into the mucous membrane, adhesions, foreign bodies, and intestinal parasites may act to start an intussusception.

It is hard, however, to find a satisfactory explanation for the preponderance of cases in early infancy and at the ileocecal junction on the above basis. Nor can we easily explain it by saying it is purely abnormal peristalsis, temporary paralysis, or, conversely, spasticity of a bowel segment. The nearest approach we have yet to an all-inclusive theory is based on studies of infant bowel anatomy. Realizing that most of the trouble originated in the ileocecal region Perrin and Lindsay made the following observation. First, "the mucosa at the ileocecal valve is very densely studded with patches of lymphoid tissue that form a ring about the orifice. This condition exists to a lessening extent, as the examination is carried up the lower six inches of ileum. Second, the ileocecal valve at this age projects about three-eighths of an inch into the cecum. Third, the lumen of the colon and the lower ileum are relatively small in the first year of life. Fourth, the entire colon, and especially the cecum and ascending colon, has a relatively long mesocolon in infancy. This makes the colon very mobile and readily permits invagination."

With these facts in view Perrin and Lindsay reasoned a slight gastrointestinal disturbance might cause such a swelling of the lymphoid tissue at the ileocecal junction as to practically close the narrow lumen of the ileum. It would also cause the ileocecal valve to protrude even further into the cecum. There would be a practical loss of response to peristaltic impulses over this more or less rigid area and it would act then as a foreign body which the rest of the gut would attempt to expel. This effort would cause an increasing infolding into the distal bowel.

Cases starting in the colon could be due to swollen lymphoid follicles which densely stud the folds of mucosa. Similarly in the small bowel engorged Peyer's patches might

initiate the same process. They also point out that swelling of these lymphoid structures is produced by some slight digestive upset and not by diarrhea which through dehydration generally shrinks them.

This theory seems to satisfy the situation, as we find it clinically better than any other today.

The seriousness of the situation arises from the constriction and strangulation of the mesentery and mesocolon as they are drawn farther and farther in with the invaginated gut. It is this that causes the swelling and stasis and soon gangrene if not relieved. Peritonitis is the certain result from invasion of bacteria from the gut lumen through the damaged mucosa. This impairment of circulation and gangrene is often merely a matter of hours, hence such need for early diagnosis and correction.

The symptoms usually are typical and definite. A well-developed and healthy child, generally a boy, suddenly doubles up with abdominal pain. His face evidences pallor and pain and even surprise. In a few moments the pain subsides only to recur at short intervals. He usually vomits. It may be once or it may be persistent and projectile. His bowels may move. Between attacks he lies quietly—apathetically—not showing the usual interest in his surroundings—may even sleep. The temperature remains normal or subnormal. As time passes the attacks become more severe and longer, his stool is mixed with blood. Soon he passes nothing but mucus and blood, not even flatus. In about half of the cases this blood appears during the first six hours. He becomes more and more toxic and by forty-eight hours if unrelieved distention and a rise of temperature indicate terminal peritonitis. Death itself, however, frequently seems to be largely from shock rather than peritonitis alone.

Before the advent of peritonitis, as a rule, the abdomen is soft and relaxed and easily examined. In nine-tenths of the cases a sausage-shaped tumor can be felt of variable length and size. As it is difficult to feel this during the first twenty-four hours the mass most frequently is found in the left iliac fossa. It has been known to reach

the rectum as early as within twelve hours. During paroxysms of pain it is more readily palpated.

Rectal examination should never be neglected. Occasionally even on inspection of the anus a protruding tumor mass may be seen, looking like a prolapse, but in reality is the apex of the intussusception, if a blunt object or finger may be easily passed up between it and the bowel wall. If a projecting intussusception is not seen, finger examination of the rectum will sometimes encounter the tip which feels like a cervix in a vaginal examination. If this is not present the rectum will generally feel unusually empty and relaxed due to the repeated straining and tenesmus. On withdrawing the finger frequently a little spurt of bloodstained mucus follows and the examining finger usually has some of the same material clinging to it. The importance of this current jelly mucus as a diagnostic sign cannot be overemphasized.

To be safe one must consider the possibility of intussusception in every infant who passes blood. If it occurs in a well-developed previously healthy child and with severe cramping it is very suggestive. If a palpable tumor is present it is almost certain. If the tumor is absent but bloodstained mucus is present, it is equally probable. While vomiting is practically always present it is of no great value in the diagnosis. X-ray and barium enemas are occasionally of help, but some danger is involved in the latter under unskilled hands and the findings are difficult to evaluate at times, hence the time necessary to their use is not generally conceded to be worth the help obtained, especially where time is at such a premium.

A differential diagnosis in infancy must include mainly those conditions causing blood in the stools. First, acute ileocolitis will produce bloody mucus, but this under the microscope shows a massive discharge of leucocytes and bacteria with very few epithelial cells, while intussusception shows only an abundance of unchanged epithelial cells. Generally too the diarrhea fever and toxicity precede the blood, nor will there be a palpable mass. Second,

Henoch's purpura may give severe abdominal pain, but generally is not so colicky and intermittent. A mass may be felt if there is a large hematoma in the bowel wall, but usually subcutaneous hemorrhages have appeared or will appear soon after the onset. Third, a Meckel's diverticulum may cause blood to appear in the stools especially if an ulcer is present, but there is not the same type of pain and the blood is mixed with fecal material. Fourth, influenzal infections may produce blood per rectum, but there are generally other evidences of infection—fever, malaise, toxicity, etc.—early. Fifth, prolapse of the rectum has been mentioned earlier. Sixth, congenital bands about the ileocecal junction may cause bleeding, but these cannot be diagnosed before operation.

Meningitis may give colicky pain and vomiting, but there is no bleeding of the rectum and usually other signs of meningeal irritation are present. Appendicitis usually occurs with some fever and muscular spasm and the pain is not the severe paroxysmal type found in intussusception, nor are the tumor or bloody mucus present.

The prognosis for all practical purposes depends entirely on the rapidity with which diagnosis and operative relief are performed. While spontaneous reduction or cure by sloughing of the gangrenous portion occurs in one or two per cent of the cases, it is too rare to rely on. Even with surgical reduction fairly early death may occur a few hours later due to liberation of toxic materials from the strangulated portion. Mortality figures still hover around the fifty per cent mark.

Earlier diagnosis and earlier surgical treatment is the only answer to this appallingly high figure. Nonsurgical treatment is only mentioned to be condemned for abdominal massage or taxis, succussion, rectal injections or reductions under the fluoroscope are limited procedures, applicable only to certain types and all with the danger of further damage to, or perforation of, the already weakened and, at times, gangrenous bowel. Reduction is frequently impossible even under actual vision.

Ether is considered by most to be the

best anesthetic agent due to the more complete relaxation obtained. A median or right rectus incision is made, the mass grasped, and as much of the reducing done as possible within the abdominal cavity, carefully milking it out from below upward rather than pulling on the invaginated part. Careful, steady pressure over the apex to reduce edema, such as is employed in reducing a phimosi or a hernia, is the most effective and safest method to attempt reduction. Even if reduction is easily accomplished the bowel should be carefully inspected to be sure it is all viable. However, unless it is definitely necrotic, it is safer to leave the bowel intact and close the incision, as resection carries such a high mortality in children.

If the mass is not reducible one is left with the possibility of: first, making an enterostomy or colostomy above the obstruction, leaving the intussusception intact; second, making a lateral anastomosis around the mass again, leaving it in the abdomen; third, performing a Mikulicz, leaving the ends open after resecting the mass; fourth, making a lateral or end-to-end anastomosis after resecting the mass; or fifth, resecting the intussusception after making an incision in the outer layer as in the Coffey operation.

Probably the safest is the lateral anastomosis around the obstruction after suturing the invaginated portion so as to prevent further infolding, for the mortality in resection in children is usually extremely high and enterostomies allow too much fluid and food loss.

In successful reductions some surgeons attempt to prevent recurrences by suturing the ileum and ascending colon side by side and anchoring the colon to the parietal wall. This additional manipulation is hardly wise, however in most cases since recurrences are so infrequent.

Following operation the usual precautions in childhood surgery should be taken. Shock must be combated with heat and stimulation if necessary. Mineral and fluid balance must be maintained. Parenteral saline or preferably Hartmann's solution, fre-

quently reinforced with glucose, is necessary.

Occasionally continuous Wegenstein suction is lifesaving. Feedings by mouth do not need to be hurried; though if the reduction has been early and easy, delay is not necessary except for postoperative nausea. If reduction has been difficult or impossible and the course is necessarily stormy, morphine or some of its derivatives in relatively large doses may be and should be given freely. Transfusions during convalescence are at times necessary.

The average mortality in intussusception is fifty per cent. If reduction is not possible it amounts to ninety per cent. Even after easy reductions at times death occurs evidently due to toxins in the bowel liberated by the restored circulation and bowel continuity.

Better results than these are attained in certain institutions where earlier diagnosis and operation are possible through constant alertness.

Of at least local interest are the following statistics from Nashville institutions:

Total recorded cases of intussusception, infant and adult, in the five Nashville hospitals for the ten-year period, 1929 to 1938, inclusive.....	51
Male and Female.....	2.75:1
Under six months of age.....	33.3%
Under twelve months of age.....	64.7%
Under twenty-four months of age.....	74.5%
Vanderbilt, twenty-seven cases, mortality.....	48.2%
Nashville General, ten cases, mortality....	30%
Protestant, four cases, mortality.....	25%
St. Thomas, eight cases, mortality.....	0.0%
Hubbard, two cases, mortality.....	100%
Average mortality total.....	37.25%
Duration of symptoms of those dying.....	3½ days
(Excluding one of eight hours which died of bronchopneumonia on the third day)	
Ileocecal type.....	88%
Resection performed.....	19%
Mortality of those resected.....	50%

Probable cause (where noted)—Polypi, age of patients, twenty-one, eighteen, sixteen years; glands, eight months, six years, eight months; carcinoma, fifty-four years; lymphosarcoma, six months; appendix, four months.

While these are better than average figures, the number of cases is not great enough to give one a feeling of complacency or to cause one to relax his alert attitude

in an endeavor to recognize these cases and have them treated in the course of a few hours rather than days. The results are abundantly worth while.

In conclusion simply let us remember that intussusception is predominantly an early childhood problem, and that whatever

its pathogenesis the diagnosis is generally easy if only one bears the possibility of intussusception in mind. Whenever one finds abdominal pain or bloody stools it must be considered routinely. The treatment is surgical. The reward is a living infant.

STATEMENT SUBMITTED TO THE SUBCOMMITTEE OF THE SENATE COMMITTEE ON EDUCATION AND LABOR ON S. 1620

MR. J. G. CROWNHART, Madison, Wisconsin
Secretary, State Medical Society of Wisconsin

PERTAINING TO TITLE XIII OF THE BILL

INASMUCH as Wisconsin, according to the National Resources Board, enjoys the distinction of being one of the three leading states in the United States in health accomplishments and achievements, the medical profession of Wisconsin, which has been the initiating force for much of the health legislation of the state, feels a particular interest in all efforts that will truly and permanently advance the public health. Favoring, as we do, measures to advance the public health, we are impelled because of that interest to oppose the bill now before you.

In the limited time at my disposal, I address myself in particular to Title XIII, "Grants to States for Medical Care," beginning on page thirty-four and ending on page forty.

Anxious to study and to develop in Wisconsin any procedure to further the use of health services and sickness care facilities among the citizenry, the State Medical Society of Wisconsin, as part of an extensive threefold field study, authorized me to study firsthand the European systems for the distribution of sickness care, and in particular the only system that has been widely and continuously advocated by the groups proposing this measure—compulsory sickness insurance.

As background for that study completed just last summer, I have had the privilege for sixteen years of being the lay secretary of the State Medical Society of Wisconsin, and during seven years of that period, secretary of the Wisconsin Hospital Association. Recently I had the privilege of for more than a year acting as chairman of the Health Section of the Governor's Committee on Public Welfare in Wisconsin. Throughout my particular interest has been in the field of the distribution of health services and sickness care and my studies

abroad were materially aided by extensive credentials that gave me entree to authentic and widely varied sources of information.

1. There have been many detailed studies of *laws* relating to compulsory sickness insurance. Accepting these as accurate, my studies were made to ascertain the major point of real importance—how and with what degree of success the health services and sickness care under compulsory systems actually reached the insured population on the receiving end, for unlike other social insurances, compulsory sickness insurance pays in terms of services and not in terms of money.

2. The whole purpose of the studies was to determine then whether that framework of compulsory legislation, either as it stood or with modifications, could be brought back and applied in our own State of Wisconsin as a means of further advancing the health of our people.

The laws on this subject in France, England, Norway, Sweden, Denmark, Germany, and other countries vary widely, and yet out of each of the studies, and all of them, the observer is increasingly and constantly impressed that there are certain factors and elements that come to the fore in every country that has such a law. It is self-evident from intensive firsthand observation that these elements are inherent to the system.

Because they are inherent to the system, they would operate in this country under any state law either to secure the presumed advantage of compliance with the proposed federal law or to prevent loss of the state's share of federal subsidy offer.

The Wagner Bill is so designed as virtually to insure the inauguration of state compulsory sickness insurance plans subject to the control and direction of the federal government. Consequently, these inherent elements that permeate the European sys-

tems to the destruction of scientific advances and to the prevention of the delivery of proper medical care would be brought into play as domestic plans became effective.

In the brief time at my disposal, it is my purpose to outline to you some of the more important of these inherent elements which everywhere operate to defeat the announced purpose of compulsory sickness insurance.

1. The tax contribution of the employee is fixed in the initial legislation, and remains fixed in that amount throughout years to follow. It having been announced to the public that the benefits of complete and thorough medical care will be furnished for that contribution, and the tax applying in volume to the small pay check, it may be economically impossible and always politically inexpedient to increase that contribution. But, on the other hand, the total amount received and available for care of the sick may vary with economic conditions of the country and changing costs of administration with no corresponding changes in the total amount of benefits promised. The funds may be vitally affected by waves of health fads that periodically sweep every country, or by epidemics of unanticipated character. As the people affected become health-conscious and then "policy-conscious" so do their demands, warranted or unwarranted, increase. *The end result is a system wherein the administrator loses his social service concept and of necessity becomes the trustee and conservator of funds instead of the guardian of health.* He furnishes the insured population with the bare essentials, and often less than that, instead of all that is needed, keeping a skeptical eye and the purse strings tight on the advances of science and improvements in the rendition of medical care.

2. Unlike sickness care rendered under workmen's compensation acts, there is no penalty upon the administration for the furnishing of a service deficient in quality or amount, or both, and, on the other hand, there is the budget necessity for balanced books. This driving force results in cheapening the health services.

3. The administration is not only interested in securing its medical service at a

fixed cost per patient per year in order to have certainty of balanced books, but obviously it must be interested from a financial viewpoint in what the physician does and prescribes, because that costs the insurance administration money. The result is that in each system there is to be found the book of rules and regulations, *ad infinitum*, within the limits of which the physician must stay at the risk of a money penalty—and, may I add—within which the physician, dependent upon the system for a substantial amount of his income, learns to stay if he is to remain in the system.

4. The systems do not administer themselves any more than insurance companies administer themselves, and from an admitted twelve per cent administrative cost, to what appears to be a more nearly actual eighteen to twenty per cent administrative cost, is found everywhere. The administrative force must include the system physician to check on the treatment in unusual illness; the prescription checker to determine whether the physician has stayed within the prescription rule book, and the pharmacist abided by the fixed price; and the sick visitor who endeavors to detect the malingerer; the accountant who checks the pay roll deductions; and office staffs that result in a total administrative force in the estimation of the International Labor Office of from one person for every fifty to one person for every one hundred that are insured. This vast administrative army of laymen, which in my own State of Wisconsin would number 3,000 or more, becomes as large and larger than the number of physicians giving actual sickness care. The administrative army diverts part of the funds and controls all of them, which in turn results in a state and federal control of medical service itself. This is inherent in a law such as is here contemplated.

5. Finally, I direct your attention to the fact that under this type of legislation, and under bills proposed in my own state, written by the Social Security Board staff, the administrator is politically appointed, selects the physicians, and he may discharge them at will so long as he complies only with the procedure. He is responsible to

no court for the reasons. In Germany this system has resulted in the observer being unable to find medical scientists of yesterday of international importance. And there is no safeguard against such misuse of this type of control that inherently exists in such legislation.

I say to you that these concepts of sickness care are foreign to every concept of our physicians in Wisconsin and that type of care that has resulted in our own state having a record of health achievements excelled by no country that has adopted such legislation. The inherent elements in any system of compulsory sickness insurance are such as change both the concept of the people and the role of the physician from the present-day American concept of health attained by prevention and individual care to a limited treatment of disease with the physician in the salvage role.

In conclusion, may I remind you that the authentic report of Political and Economic Planning, after two years of study of the British health services points out: "The nation needs sickness services, but a nation which regards them as a substitute for health services is going to find the confu-

sion expensive in money and suffering. . . . It is no less necessary for those concerned with national health to examine the diseases of insurance schemes than it is to study heart disease and cancer."

If it is possible, I should like the record to show that a copy of my studies abroad will be left for the information of each member of the committee.

I say to you in all sincerity and with all the earnestness at my command that the health achievements of Wisconsin and of this nation have not been made, as some would have you believe, in *spite* of our failure to adopt European systems of compulsory sickness insurance, but because of our foresight in *avoiding* the very concepts of control that are inherent to such governmentally systematized services. The social purchase price for the adoption of such legislation is the surrender for all time of our concept of education for health and in times of illness, our concept of the sick man, woman, or child as an individual with highly, individualistic reactions requiring, deserving, and securing a personalized service.

REPORT OF REFERENCE COMMITTEE ON THE WAGNER HEALTH BILL

YOUR Reference Committee has carefully considered the bill designated as Senate Bill 1620—"A bill to provide for the general welfare by enabling the several states to make more adequate provision for public health, prevention and control of disease, maternal and child health services, construction and maintenance of needed hospitals and health centers, care of the sick, disability insurance, and training of personnel; to amend the Social Security Act; and for other purposes."

This bill was introduced by Senator Robert A. Wagner of New York, February 28, 1939, and is commonly referred to as the Wagner Health Bill. The bill itself provides that, if it be enacted, it may be cited as the "NATIONAL HEALTH ACT OF 1939." The purposes of the bill are sufficiently stated in the title, but the bill itself must be recognized as a proposed amendment to the Social Security Act of 1935. The bill is intended to make effective a national health program recommended by the Interdepartmental Committee to coordinate health and welfare activities.

The House of Delegates of the American Medical Association at its special session in Chicago, September 16, 1938, considered the National Health Program and adopted resolutions based on five recommendations contained in the program. It is important that this fact be borne in mind, for the bill, which was drafted long after these resolutions were adopted and at a time when the resolutions were presumably known to the proponents of this measure, does not recognize either the spirit or the text of these resolutions. Any criticism of this bill by the association is not to be construed, therefore, as a repudiation of any of the principles adopted by the 1938 Special Session of the House of Delegates.

Analysis of the Bill

Senate Bill 1620 proposes to amend Title V of the Social Security Act—Grants to States for Maternal and Child Welfare; and Title VI—Public Health Work and Investi-

gations; and proposes to add to the Social Security Act certain new titles: namely, Title XII—Grants to States for Hospital and Health Centers; Title XIII—Grants to States for Medical Care; and Title XIV—Grants to States for Temporary Disability Compensation.

Already some individuals and organized groups in the United States have appeared before the Senate Subcommittee which has this bill under consideration and have urged its immediate enactment. Although the stated objectives of the Wagner Health Bill are generally recognized as desirable, your committee cannot approve the methods by which these objectives are to be attained.

Repeatedly, physicians and all other qualified professional groups have recommended the coordination and consolidation of the health activities of the federal government. The Wagner Health Bill leaves existing and proposed preventive and curative medical services widely scattered through several federal agencies.

This bill does not in any way safeguard the continued existence of the private practitioners who have always brought to the people the benefits of scientific research and treatment.

It does not provide for the use of the thousands of vacant beds now available in hundreds of church and community general hospitals.

The Wagner Health Bill proposes an extensive program in the field of "health, diagnostic, and treatment centers, institutions and related facilities," without defining their functions.

This bill proposes to make federal aid for medical care the rule rather than the exception, since it does not specifically limit its benefits to persons unable to pay for adequate medical care.

The Wagner Health Bill does not recognize the need for suitable food, sanitary housing, and the improvement of other environmental conditions necessary to the continuous prevention of disease and promotion of health.

This bill insidiously promotes the development of a complete system of tax-supported governmental medical care, thus undermining and debasing present standards of medical services.

The House of Delegates in September, 1938, urged compensation for the loss of wages during sickness. The Wagner Health Bill deviates from this suggestion by proposing to provide medical services in addition to compensation.

The Wagner Health Bill would authorize an enormous expansion of governmental medical services and therewith ultimately unlimited appropriations for its health program. The funds necessary would be so great as to increase still further the present burdensome general taxation.

The Wagner Health Bill provides for supreme federal control. Rules and regulations must be promulgated by the Chief of the Children's Bureau in the Department of Labor, the Surgeon General of the Public Health Service, the Federal Emergency Administrator of Public Works, and the Social Security Board. These federal agents are given authority to disapprove plans proposed by the individual states.

The House of Delegates at its September, 1938, session approved the expansion of preventive and other medical services when the need could be shown. The Wagner Health Bill prescribes no method for determining the nature and extent of the needs for which it proposes allotments of funds.

The provisions in the Wagner Health Bill that have been considered by the House of Delegates are: the authorization of appropriations for studies, investigations and demonstrations, and the creation of federal and state advisory councils.

The Wagner Health Bill, as judged by the considerations that have been here presented, is inconsistent with the fundamental principles of medical care established by years of scientific professional medical experience, and in the opinion of your committee it is, therefore, contrary to the best interests of the American people.

For years the health of the people of the United States, as measured by sickness and

death rates, has been better than that of most foreign countries, and this improvement has been continuous. The fortunate health conditions in the United States cannot be disassociated from the standards and methods of medical practice that have prevailed under the present system of medical practice.

No other profession and no other organization has done more for the prevention of disease, the promotion of health, and the care of the sick than have the medical profession and the American Medical Association. No other groups have shown more genuine sympathetic interest in human welfare.

The contribution of the individual members of the American Medical Association to medical care is universally regarded as monumental in total volume. The contribution of the American Medical Association, through a program of medical education and the activities of its numerous councils which safeguard medical service, gives abundant proof of interest in the problems of the national health. It has given continued consideration to these problems, whereas others show concern with these proposals because of a present, but, it is to be hoped, a temporary need for relief. These are the groups which request revolutionary legislative action as indispensable for the extension and further diffusion of health facilities.

In view of its record and in consideration of the responsibility which American social history and the nature of medical care have imposed on the medical profession, the American Medical Association would fail in its public trust if it neglected to express itself unmistakably and emphatically regarding any threat to the nation's health and well-being.

The American Medical Association must, therefore, speaking with professional competence, oppose the Wagner Health Bill.

Nevertheless, recognizing the soundness of the principles stated in the resolutions adopted by the House of Delegates at its special session in 1938, namely, the expansion of preventive medicine and public

health where need can be shown, the extension of medical care for the indigent and the medically indigent where the need can be demonstrated, with local determination of needs and local control of measures to supply these needs, your committee would urge the development of a mechanism for meeting these needs within the philosophy of the American form of government and without damage to the quality of medical services.

This question, as it relates to the aid to be given by an individual state to its own counties, municipalities or other local political units, is not immediately before this Association. The answer is to be found in the individual state constitutions and state statutes. Counties, townships, and municipalities are creatures of the individual states and can be molded and guided by the state for its own purposes. The individual state, itself, is not a creature of the federal government. The federal government is, as a matter of fact, a creature of the individual states.

The fundamental question is how and when a state should be given financial aid by the federal government out of the resources of the states as a whole pooled in the federal treasury. Disasters, such as floods, dust storms, fire and epidemics, have long been recognized as justifying such federal aid. No state or person has ever been heard to object to the use of funds out of the federal treasury for such purposes. No one has ever proposed, however, that because federal aid is extended under such conditions to a state in distress, a corresponding aid must be extended to every other state regardless of its need. Nor has any one ever been heard to say that federal aid to a state in distress, because of flood, dust storm, fire or epidemic, shall not be extended, unless and until the suffering state has produced from its own treasury a stated amount of money to aid in affording the relief. The development of such bizarre thinking may be traced to those who have originated within comparatively recent years the granting of federal subsidies—sometimes referred to as “grants in aid”—to induce states to carry on intra-

state activities suggested frequently in the first instance by officers and employees of the federal government. The use of federal subsidies to accomplish such federally determined activities has invariably involved federal control. Any state in actual need of financial aid from the federal government for the prevention of disease, the promotion of health, and the care of the sick should be able to obtain aid in a medical emergency without stimulating every other state to seek and to accept similar aid and thus to have imposed on it the burden of federal control.

The mechanism by which this end is to be accomplished, whether through a federal agency to which any state in need of federal financial assistance can apply, or through a new agency created for this purpose or through responsible officers of existing federal agencies, must be developed by the executive and the congress who are charged with these duties. Such methods would afford to every state an agency to which it might apply for federal assistance to enable it to care for its own people without involving every other state in the Union or the entire government in the transaction, and without disturbing permanently the American concept of democratic government.

SUMMARY

1. The Wagner Health Bill does not recognize either the spirit or the text of the resolutions adopted by the House of Delegates of the American Medical Association in September, 1938.
2. The House of Delegates cannot approve the methods by which the objectives of the National Health Program are to be obtained.
3. The Wagner Health Bill does not safeguard in any way the continued existence of the private practitioners who have always brought to the people the benefits of scientific research and treatment.
4. The Wagner Health Bill does not provide for the use of the thousands of vacant beds now available in hundreds of church and community general hospitals.

5. This bill proposes to make federal aid for medical care the rule rather than the exception.
6. The Wagner Health Bill does not recognize the need for suitable food, sanitary housing, and the improvement of other environmental conditions necessary to the continuous prevention of disease.
7. The Wagner Health Bill insidiously promotes the development of a complete system of tax-supported governmental medical care.
8. While the Wagner Health Bill provides compensation for loss of wages during illness, it also proposes to provide complete medical service in addition to such compensation.
9. The Wagner Health Bill provides for supreme federal control: federal agents are given authority to disapprove plans proposed by the individual states.
10. The Wagner Health Bill prescribes no method for determining the nature and extent of the needs for preventive and other medical services for which it proposes allotments of funds.
11. The Wagner Health Bill is inconsistent with the fundamental principles of medical care established by scientific medical experience and is therefore contrary to the best interests of the American people.
12. The fortunate health conditions which prevail in the United States cannot be disassociated from the prevailing standards and methods of medical practice.
13. No other profession and no other group have done more for the improvement of public health, the prevention of disease, and the care of the sick than have the medical profession and the American Medical Association.
14. The American Medical Association would fail in its public trust if it neglected to express itself unmistakably and emphatically regarding any threat to the national health and well-being. It must, therefore, speaking with professional competence, oppose the Wagner Health Bill.
15. The House of Delegates would urge the development of a mechanism for meeting the needs for expansion of preventive medical services, extension of medical care for the indigent and the medically indigent, with local determination of needs and local control of administration within the philosophy of the American form of government and without damage to the quality of medical service.
16. The fundamental question is how and when a state should be given financial aid by the federal government out of the resources of the states as a whole pooled in the federal treasury.
17. The bizarre thinking which evolved the systems of federal subsidies—sometimes called “grants-in-aid”—is used to induce states to carry on activities suggested frequently in the first instance by officers and employees of the federal government.
18. The use of federal subsidies to accomplish such federally determined activities has invariably involved federal control.
19. Any state in actual need for the prevention of disease, the promotion of health, and the care of the sick should be able to obtain such aid in a medical emergency without stimulating every other state to seek and to accept similar aid, and thus to have imposed on it the burden of federal control.
20. The mechanism by which this end is to be accomplished, whether through a federal agency to which any state in need of federal financial assistance can apply, or through a new agency created for this purpose or through responsible officers of existing federal agencies, must be developed by the executive and the congress, who are charged with these duties.
21. Such a method would afford to every state an agency to which it might apply for federal assistance without involving every other state in the Union or the entire government in the transaction.
22. Such a method would not disturb permanently the American concept of democratic government.

DIFFUSE GLOMERULONEPHRITIS IN THE VARIOUS STAGES

DAVID SCHEINBERG, M.D., M. Sc. (Med.), Memphis

MANY ADVANCES have been made since Bright's disease was first described. Thanks to the brilliant work of numerous investigators of the kidney, the clinician raises his head above the previously existing chaos. Works like that of Fishberg, Elwyn, and McElroy admirably summarize the contributions to the knowledge of kidney affection.

In many good hospitals and clinics, heart disease is investigated etiologically, anatomically, and functionally. A patient with nephritis, however, will be merely diagnosed as chronic nephritis. Yet from the studies made, a better understanding of the patient's illness can be obtained. How far has his disease advanced?

It is the purpose of this paper to place the patient with chronic nephritis in the proper stage of his disease and also to suggest a diagram of the progression of these stages. The writer believes that this can be done in most cases by the same studies that are now daily carried on in almost all hospitals. It is not the purpose of this paper to imply that all is known of the affections of the kidney.

The kidney is not an organ of mystic functions. It forms an integral part of the delicately adjusted mechanism maintaining life processes in our bodies. Water and salt metabolism, excretion of catabolic products, and the equilibration of body fluids for the proper functions of the organism concern the kidney. The kidney functions on a physical-chemical-biological basis.

According to the latest work, urine formation occurs in the following manner. Catabolic products to be excreted pass into the blood from the interstitial fluid by virtue of the greater osmotic pressure in the blood stream. This osmotic pressure or drawing power is exerted by the serum proteins. Blood carrying waste products reaches the glomerular tuft by an afferent arteriole. Water and crystalloids of the

serum filter through the endothelium of the capillaries and through the visceral epithelial layer of Bowman's capsule into the capsular space. The serum proteins are held back by the visceral epithelial layer, while water, chlorides, glucose, urea, phosphates, calcium, etc., filter through. The filter in the kidney is this flat epithelial layer. The ratio of the different crystalloids filtering through is directly proportional to their quantity in the blood plasma.

The protein-free filtrate now leaves Bowman's space and enters the tubular system. As this filtrate begins its passage through the tubules, the relative quantities of its various constituents are still proportionally the same as they were in the blood plasma. But this soon changes; concentration of the filtrate begins. Water is reabsorbed from the solution by the tubular cells and returned to the blood by a venule. But more than just water is reabsorbed. A certain proportion of all the solutes is reabsorbed. Each solute (urea, chloride, glucose, etc.) has its own reabsorption ratio, depending upon certain physical and chemical characteristics of the solute and also upon its quantitative need by the body. It is this reabsorption ratio that decides the final concentration of the various crystalloids in the bladder urine. Urea in the urine is sixty-five times that of the urea in the blood serum; urine chloride is 1.5 times that of the serum chloride. Sodium is present in the same concentration in the urine as it is in the serum, while glucose is almost entirely returned to the blood and is normally present in the urine in very small amounts. The body needs even some of its catabolic products, such as urea and creatinine (these, in certain amounts, stimulate life processes of body cells) and these are therefore reabsorbed to some extent.

Not all of the glomeruli take part in the filtration process at the same time. It is estimated that only about one-third of their number participate during ordinary physio-

logical activity. But more glomeruli are flooded with blood as need arises for greater filtration surface. A glomerular reserve is therefore present. Also each glomerulus may have only a portion of its capillaries at work, holding the other branches of the tuft in reserve.

In studying the patient, one of course wishes a classification of Bright's disease. Fishberg's modification of Volhard and Fahr's classification is preferred by the writer.

1. Benign albuminuria.
2. Nephroses (degenerative).
3. Nephritis (inflammatory).
 - a. Diffuse glomerulonephritis.
 - b. Focal nephritis.
 - c. Acute interstitial nephritis.
4. Multiple glomerular embolization.
5. Nephrosclerosis.
 - a. Essential hypertension.
 - (1) Benign.
 - (2) Malignant.
 - b. Senile arteriosclerotic kidney.

This paper will deal only with diffuse glomerulonephritis. This is the most important disease of the chronic inflammatory affections of the kidney. The following cases are presented to illustrate the various stages of the disease.

CASE NO. 1—ACUTE DIFFUSE GLOMERULONEPHRITIS

Alfred C., a white boy of fourteen, was brought into the Philadelphia Jewish Hospital on December 7, 1936, with the diagnosis of "acute urine retention." The boy was a member of the high school football team and had participated in a game on December 1, a cold and rainy day. Two days later the boy complained of headache. Twenty-four hours later his face became somewhat puffed. During the next two days he complained of dizziness and vomited several times. On December 7 the boy was brought to the hospital in a delirious condition; he had not voided for forty-eight hours.

He has had whooping cough and chicken pox in early childhood, and pneumonia at

the age of seven. He never complained of sore throat and had only occasional colds.

On admission the boy was well developed, well nourished, with a pale and puffy face. He was mentally confused and restless. T. 100, P. 100, R. 28, B. P. 170/110. The tonsils were enlarged, and the anterior pillars moderately inflamed. The chest and lungs were normal. The heart tones were forceful, regular in rhythm, A2 greater than P2, P. M. I. in fifth interspace eight centimeters from the M. S. L. The urinary bladder was not distended. There was slight pitting edema of the hands and wrists, but no ankle edema. Reflexes were normal. Catheterization yielded sixty-five cubic centimeters of urine. Following this procedure the boy showed involuntary contractions of the muscles of the face and arms.

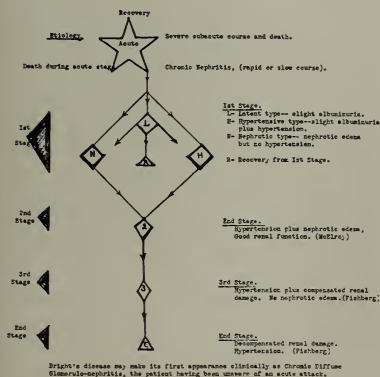
Laboratory studies: Urine—acid reaction; sp.gr. 1.027; albumin—cloud; sugar and acetone—negative; a few granular casts; two to four W. B. C., ten to twelve R. B. C. per high power field. Blood—eighty-eight per cent hb., 4,750,000 R. B. C., 6,300 W. B. C., fifty-eight per cent neutrophils, forty per cent lymphocytes, two per cent eosinophiles per cubic millimeter of blood. Urea nitrogen fifty-one milligrams, creatinine 2.1 milligrams, sugar ninety-six milligrams, serum albumin 3.5 grams, serum globulin 1.7 grams per 100 cubic centimeters of blood.

We permit ourselves to visualize the kidney lesion and to understand the underlying pathologic physiology. The kidneys are the seat of the first attack of acute diffuse glomerulonephritis. The glomeruli are diffusely involved; we learn this from the oliguria and urea nitrogen retention. However, there are many glomeruli which are not completely blocked. A very small amount of filtration occurs in almost all glomeruli. These partially blocked glomeruli furnish for concentration a small amount of fluid to each of their corresponding tubules. We learn this from the high specific gravity of the urine and the Fishberg concentration test, 1.022, 1.024, 1.027. We can also try to understand the general capillaritis which permits the escape of

serum proteins into the interstitial tissues—the puffiness of the face, the edema (nephritic) of the hands and wrists, the paleness of the skin, the slightly lowered blood serum proteins—all are evidences of that.

During the first day after admission, the boy did not void; on the second and third days he voided 550 cubic centimeters and 500 cubic centimeters, respectively; on the fourth day he voided 900 cubic centimeters. The blood pressure and urea came down to normal. The R. B. C. disappeared from the urine on December 15, and albumin was evident only in a faint trace. Will the glomeruli clear completely, or will the "toxin" reappear again and cause a gradual progression of the disease into the first stage of chronic diffuse glomerulonephritis? (See diagram.)

Diagram of the Succession of Events in Diffuse Glomerulonephritis.



CASE NO. 2—LATENT TYPE FIRST STAGE CHRONIC DIFFUSE GLOMERULONEPHRITIS

Louis R., a white male of twenty-seven, was admitted to the Jewish Hospital (Philadelphia) on September 27, 1936, to the service of Dr. J. C. Doane, complaining of weakness. About six weeks before, the patient was chilled while bathing in the ocean. Several days later Mr. R. felt somewhat under par and noticed a morning puffiness about his eyes. After a few days the patient consulted a physician, who found a cloud of albumin in the urine, with

R. B. C. and hyaline and granular casts. The blood pressure was normal. His physician put him on a low protein, salt-poor diet. The patient since noticed a gradual increasing weakness, with shortness of breath on exertion. He has not been heart-conscious and has not had palpitation or precordial distress. There is no history of scarlet fever or diphtheria. He is subject to frequent head colds; tonsillectomy was performed in 1933. The urine at the time was normal.

On examination T. 98, P. 72, R. 20, B. P. 120/78. Except for a paleness about the face everything else was normal. There was no edema; the heart was normal in size, position, tone, and rhythm; no murmurs were heard. Eye grounds were normal; no foci of infection were found. The electrocardiogram showed a slight left ventricular preponderance.

Studies: Urine—alkaline reaction; sp.gr. 1.008; albumin—cloud (plus one); occasional granular casts; no R. B. C.; no double refractile bodies. Blood—4,850,000 R. B. C., 8,900 W. B. C., sugar eighty-one milligrams; urea nitrogen thirteen milligrams; uric acid four milligrams; creatinine 1.5 milligrams; cholesterol 275 milligrams; albumin 5.5 grams; globulin two grams; chlorides 480 milligrams; Wassermann negative. Urine concentration varied between sp.gr. 1.003 and 1.027 by the Mosenthal test. The basal metabolism was minus seven.

Because of the history of swelling of the face accompanied by albuminuria, cylindruria, and slight hematuria, a diagnosis of glomerulonephritis was made by his physician. In view of the occurrence of urinary abnormalities for the first time, the attack was thought to be the first. At the hospital, six weeks after the onset of the patient's illness, it was believed that the patient was either getting over his first attack of acute diffuse glomerulonephritis or that he was in the latent type of first stage chronic diffuse glomerulonephritis. The normal semipermeable filter of some of the glomeruli had become permeable to protein because of the previous acute attack. Kidney function was good, probably because

only a few glomeruli remained permanently blocked.

The patient was put on a well-balanced diet (including at least a gram of proteins per kilo of body weight) and discharged to the care of his family physician on October 10, 1936. However, in spite of precise instructions in regard to the protein intake, his physician insisted on a low protein diet. The patient returned to the hospital on December 12, 1936, complaining of increasing weakness. Physical examination was negative except for a slight paleness. There was no edema. B. P. 110/70. The urine had a cloud of albumin, occasional hyaline cast, no R. B. C. The blood studies revealed sugar eighty-one milligrams; urea nitrogen ten milligrams (proteins were somewhat lower than on the previous admission); serum albumin 4.6 grams, serum globulin 1.8 grams, R. B. C. 4,950,000. The urine concentration by the kidneys was good; the specific gravity varied between 1.016 and 1.032.

A diagnosis of latent type first stage chronic diffuse glomerulonephritis was made; the weakness and the low normal level of the serum proteins were attributed to the low protein diet that the patient was on. Can one say that the protein-permeable filters of the affected glomeruli in time will return to normal? Yes, one may answer encouragingly, if he were assured that the etiologic agent of glomerulonephritis did not strike again and again, stealthily or openly, gradually crippling more and more glomeruli. However, one can say that the patient at the present can lead a normal life on a well-balanced diet and careful hygienic regime.

CASE NO. 3—NEPHROTIC TYPE OF FIRST STAGE CHRONIC DIFFUSE GLOMERULONEPHRITIS

This is the stage of chronic nephritis which frequently gives rise to the controversy of whether the condition originated as a nephritis or as nephrosis, not only among clinicians, but even among pathologists. Such a controversy was present in the following case.

Theresa B., thirty-three-year-old Italian

mother of three children, was admitted to Graduate Hospital, Philadelphia, on July 9, 1935, to the service of Dr. George Morris Piersol with the chief complaints of shortness of breath and swelling of face and ankles. About two and a half months before admission the patient became ill and went to bed for six weeks with "cold in kidneys." There was no fever, but she had headaches, edema of face and ankles, and shortness of breath. Four weeks before admission she was treated in the cardiac dispensary for the edema and dyspnea, during which time the B. P. was 125/78, and the electrocardiogram showed a slight left axis deviation. In her past medical history we find only measles and whooping cough; she has had no trouble during her three pregnancies.

On examination the patient was rather emaciated. T. 99, P. 110, R. 22, B. P. 122/78. The face was edematous; tonsils were cryptic, thyroid was not palpable. The heart was one centimeter to the left of the midclavicular line; A2 greater than P2, tones were good; no murmurs, regular rhythm. Abdomen was negative. Pretibial and ankle edema was present. Urine—acid reaction; sp.gr. 1.028; albumin one per cent; sugar negative; occasional granular cast, no R. B. C.; blood—R. B. C. 3,840,000, hb. 10.5 grams, leucocytes 6,500, 4,940 polymorphs, 1,040 lymphs, Wassermann and Kahn were negative. Blood sugar ninety-two milligrams; urea nitrogen twelve milligrams; cholesterol 200 milligrams. Fishberg concentration test—1.027, 1.026, 1.022. Eye grounds were negative. After a tonsillectomy she was discharged on July 3, 1935, only to return again six weeks later.

At the present we wish to consider the nature of the illness which confined the patient to bed for six weeks prior to admission to the hospital. We are sure that the condition left an injured filter in the kidneys which now allows albumin to come through into the urine at the concentration of one per cent. Was this illness which caused the patient to have edema of face and ankles and shortness of breath a nephrosis or acute diffuse glomerulonephritis?

There is no record of the findings at that particular time, but we do have the history of a sudden, severe onset. We also have evidence that a cardiogram at the dispensary soon after showed a definite left axis deviation. Later electrocardiographic findings (no left axis deviation) show that the left ventricular strain was only temporary as caused by an acute hypertension. We are inclined to believe that the patient at that time was confined to bed with acute diffuse glomerulonephritis. The acute attack subsided, clearing almost all glomeruli, caused no residual kidney insufficiency as inability to concentrate or urea retention, but it did leave a vast diseased filtration area. The visceral epithelial layer of numerous glomerular tufts had been left degenerated—their ability to hold back albumin had been lost. It is this which brought the patient to us.

One week after her discharge from the hospital the patient came to O. P. D. complaining of headaches and nausea, also of morning swelling about her eyes. No nocturia or dyspnea. She was sent into the hospital on August 18, 1935; the edema had greatly increased. Examination at time revealed: T. 98, P. 90, R. 24, B. P. 125/75. Heart and lungs were normal; there was puffiness of the face, with pitting edema of sacral and pretibial regions. The abdomen showed evidence of shifting dullness; the liver and spleen were not palpable. (The continued loss of blood proteins into the urine gradually but surely disturbed the dynamic equilibrium in the body, lowered the osmotic pressure of the blood stream, reduced its ability to draw fluids from the interstitial tissue, and a gradually increasing generalized edema resulted.)

Studies at this time: Urine output during the first five days varied in amount between 350 cubic centimeters and 500 cubic centimeters (pre-renal deviation of water with accumulation in the tissues and diminished urine output). Urinalysis—acid reaction; sp.gr. 1.040; albumin two per cent; sugar 0.6; acetone—negative; loaded with hyaline and granular casts; leucocytes ten to twelve p. h. f.; no R. B. C.; double refractile bodies were present. Blood: R.

B. C. 4,100,000; hb. 11.5 grams; W. B. C. 7,600; Wassermann negative. Vandenberg less than 0.2 milligram; serum albumin 2.16 grams; globulin 1.7 grams (ratio, globulin one—albumin 1.2). Urea nitrogen rose to 2.43 grams, a reversal of the albumin-globulin ratio; the sedimentation rate was thirty-three millimeters in sixty minutes; urea clearance eighty-seven per cent. Blood sugar ninety-six milligrams, cholesterol 370 milligrams. Basal metabolic rate minus seven, B. P. 118/52. The electrocardiogram showed no axis deviation, but a slight myocardial degeneration. Urine had three per cent albumin and one per cent sugar. The patient improved on a high protein diet and was discharged on December 23, 1935.

Here we have the patient in a full-blown state of nephrosis. The total serum proteins are lowered; the albumin-globulin ratio is reversed; the cholesterol of the blood is elevated; the urine contains two to three per cent of albumin with casts and double refractile bodies; there is nephrotic edema. But all is the result of the damage done to the renal filters at the time of the acute diffuse glomerulonephritis. It is normal, for most of the glomeruli are not blocked, and the blood pressure is normal.

An explanation can here be asked for the sugar found in the urine (one per cent) in spite of a rather low normal blood sugar. One merely has to realize that sugar normally passes through the renal filter into the tubule and is reabsorbed almost entirely by the tubule and returned to the blood stream. In this case the damaged filter allowing albumin into the tubule brings about an increase in the osmotic pressure of the filtrate in the tubule (exerted by the albumin). The reabsorption by the venule is somewhat reduced not only because of the increased osmotic pressure in the tubule, but also because of the reduction of osmotic pressure in the venule. The blood in venule is poorer in protein than the blood which reached the glomerulus.

An opportunity to study the pathological histology in this stage presented itself. The patient was readmitted to the hospital on February 16, 1936, ten months after the onset of the first signs of nephritis. The

chief complaint this time was pain in both loins. T. 103, P. 100, R. 30, B. P. 110/70. The patient appeared acutely ill, in severe pain. There was severe edema of feet, legs, thighs, and back, with evidence of fluid in the abdomen. There was marked tenderness and excruciating pain in right loin. The chest was clear and the heart tones were of fair quality. A diagnosis of acute peritonitis was made, but surgical intervention was not advisable.

Twenty-four-hour urine output on the second day was fifty cubic centimeters. This increased to 450 cubic centimeters on the third day. Urinalysis—alkaline reaction; sp.gr. 1.023; albumin two per cent; sugar 0.8 per cent; acetone and diacetic acid negative; one to three leukocytes p. h. f.; occasional R. B. C. Blood—R. B. C. 3,270,000; hb. 8.5 grams; 31,200 leukocytes; eighty-eight per cent polymorphs; serum albumin two grams; globulin 1.75 grams; urea nitrogen fifty-five milligrams. The patient ran a high temperature and died on February 22, 1936.

An intercurrent infection which is not infrequent in the nephrotic stages of chronic nephritis brought an end to the patient's kidney condition. What was the cause of the elevated blood urea? Does this plus the oliguria point toward an acute exacerbation of the nephritis? It is a possibility, but one is inclined not to think so for several reasons. First, although the condition of the heart was fair, there was no elevation of blood pressure at any time. (It is of course true the hypertension need not always be present in an acute attack of glomerulonephritis). Second, we have a cause at hand clinically that can easily account for the elevation of urea—the infection. Severe infections often cause a temporary rise in blood urea. The increase in urea is due to the toxemia which brings about an increase in protein catabolism. Third, the microscopic picture at necropsy does not reveal an acute diffuse blockage of the glomeruli.

The necropsy was limited to the abdomen. The peritoneal cavity contained 1,200 cubic centimeters of white purulent fluid containing a large amount of fibrinous

flakes. The liver weighed 1,300 grams and showed degeneration. The gall bladder was negative (no biliary calculi). The spleen weighed eighty grams, was firm, and the splenic pulp was considerably atrophied. The right kidney weighed 180 grams, the left kidney weighed 180 milligrams. The capsule stripped readily. The underlying surface was smooth, glistening, and edematous, pale yellow in color. On section the cortical medullary structures were almost entirely replaced by a finely granular fatty-like swollen tissue. The pelvis and ureters were normal.

Histologic Examination.—Liver. Fatty degeneration with the lobular structure destroyed. Spleen. Congestion of capillaries and sinuses; the trabeculae are thickened with marked atrophy of splenic pulp. (Is this marked reduction of the reticulo-endothelial tissue evidence that it is a great source of protein which is constantly being given up to the protein-poor blood stream during the nephrotic stage?) Kidneys. The changes are most marked in the tubules; the lining cells are filled with hyaline granules. In areas the lining epithelium is flattened or wanting entirely, the wall of the tubules being represented by fibrous structures. Some glomeruli show hyaline deposit and proliferation of Bowman's capsule (evidence of a previous attack of acute glomerulonephritis). Fibrous replacement is present, but is not very extensive. Report of smear and culture or peritoneal exudate was positive for staphylococcus aureus (hemolytic).

CASE NO. 4—SECOND STAGE CHRONIC DIFFUSE GLOMERULONEPHRITIS

Elizabeth M., a white unmarried female of forty-one, was admitted to the Jewish Hospital on August 23, 1935, with the chief complaints of swelling of the face, abdomen, and legs accompanied by weakness and dyspnea. Six years before she had an attack of "flu," during which time she had bladder irritation accompanied by puffiness of the face. About ten months before admission she had another attack, the swelling of the face lasting for four weeks. During the last three months the patient

noticed an increasing swelling of the face, abdomen, and legs. Past medical history otherwise reveals only measles and mumps as a child, no scarlet fever.

On examination the patient was somewhat short of breath. T. 98, P. 90, R. 26, B. P. 166/112. The face was pasty and pitted on pressure. The thyroid was not palpable. Both pleural cavities contained free fluid. The left border of the heart was two centimeters to the left of the midclavicular line. The heart tones were regular, but only fair in force; A2 was greater than P2. The abdomen was distended; shifting dullness was present; the liver and spleen not palpable. The lower extremities were markedly edematous. The eye grounds revealed a slight arteriosclerosis.

Urine—acid reaction; sp.gr. 1.022; albumin—very heavy cloud (plus three); sugar negative; urea nitrogen eighteen milligrams; sugar 118 milligrams; cholesterol 350 milligrams; albumin 2.5 grams; globulin 3.7 grams. Fishberg concentration test—1.022 to 1.038. On a high protein diet plus the use of salyrgan, the edema greatly diminished, and the patient was discharged improved.

The nephritic process was advanced to the second stage in which we find the combination of a nephrotic picture and hypertension. Previous to her admission, the patient was aware of at least two attacks which were probably acute or acute exacerbations. These undoubtedly affected the renal histologic structure. The complete obstructions of some, plus the partial obstruction of many glomeruli, may be said to account at least partially for the hypertension. The large diseased but relatively patent filtration area allows much serum albumin to be lost. This accounts for the resulting nephrotic picture. Filtration of catabolic products is as yet carried on by many glomeruli (although many may be partially blocked). Renal function is good in this stage.

CASE No. 5—END STAGE CHRONIC DIFFUSE GLOMERULONEPHRITIS (STAGE OF DECOMPENSATED RENAL INSUFFICIENCY)

Bessie C. was a white married female of forty, who was admitted to the Jewish Hos-

pital on December 3, 1936, complaining of headache, dizziness, nausea, vomiting, and weakness. We found that the condition which brought the patient to the hospital began some years ago. In 1924 the patient came to Dr. Charles Mazer because of sterility. In her past medical history there was no scarlet fever or any condition simulating a severe attack of acute glomerulonephritis. Dr. Mazer found the patient to have at that time a blood pressure of 160/100. There was no edema. The urine was acid in reaction; sp.gr. 1.024; albumin—heavy cloud (plus two); sugar negative, occasional R. B. C., and occasional granular casts. The patient had not been in the best of health since. There were periods of swelling of the face and shortness of breath on exertion. However, there is no record of any definite studies until 1932, when the patient again consulted a physician. The B. P. was 200/120, and the urine was of low specific gravity, containing a cloud of albumin and casts.

On October 16, 1936, the patient was brought to the Temple University Hospital in a stuporous condition, having had convulsions at home. The B. P. was 250/140. Urinalysis showed a cloud of albumin, finely granular and hyaline casts, with a few white and red cells. The blood urea nitrogen was ninety-five milligrams on admission and was seventy-eight milligrams on discharge (November 11, 1936). The urea clearance test was four per cent of the average normal function.

Before we describe the patient as she appeared at the Jewish Hospital, let us review the course the disease had taken during the last twelve years. There is no history as to when the nephritic process started, but in 1924 the patient presented herself to Dr. Mazer with signs and symptoms of nephritis. In what stage of her disease was the patient at that time? Urine concentration was good, there was no edema; but there was a hypertension with a cloud of albumin in the urine. In view of the later progression of the disease, we can readily say that the patient was in the hypertensive type of first stage chronic diffuse glomerulonephritis. (See diagram.)

Did the patient ever present clinically the second stage of the disease? No, we do not think so. It is true that for several years following 1924 the patient had puffiness of the face, but there is no history of a full-blown nephrotic type of picture with extensive edema. If there had been such a picture, it would certainly have been remembered by the patient. Following the first stage, the progressive complete removal of functioning glomeruli was either too fast to allow enough diseased, protein-losing filters to exist long enough to deplete the blood serum proteins, or the process was so gradual as to involve new glomeruli hand-in-hand with the complete obliteration of previously diseased ones. Because there is no history that during the first few years following 1924 a severe acute exacerbation had occurred and because of the duration of the illness, we are inclined to believe that the involvement and obliteration of glomeruli was gradual.

We say that the patient was in the third stage (compensated renal insufficiency) when she presented herself to her physician in 1932 with hypertension, inability to concentrate urine, polyuria, and nocturia. At the Temple University Hospital in 1936 the patient suffered from an acute exacerbation of the nephritis with an accompanying hypertensive encephalopathy (stupor and convulsions). This undoubtedly destroyed many more glomeruli in the already glomeruli-poor kidneys.

When the patient presented herself to the Jewish Hospital twelve years after the disease was first recognized, she complained of vomiting and headache. She was however somewhat better since the acute exacerbation, as the blood urea nitrogen had dropped down from seventy-eight milligrams on November 11, 1936 (at Temple University Hospital), to fifty-two milligrams on admission to our institution. Before we give the physical findings we want to call attention to the low protein diet that the patient lived on for the last ten years.

Examination revealed a middle-aged white female, fairly well developed, and slightly obese. There was no edema, but the skin looked pasty. She was pale and

not very alert mentally. T. 98, P. 90, R. 20, B. P. 120/110. Head, eyes, ears, and nose were negative. The tonsils had been removed. The chest was negative. The heart was enlarged to three centimeters to the left of midclavicular line in the fifth interspace. The sounds were of fairly good tone, regular in rhythm; systolic murmur at the base transmitted to the neck. A2 was greater than P2. Abdomen was negative. The extremities were negative, except for a slight ankle edema. The spinal fluid pressure was eighteen millimeters of mercury. Eye ground examination revealed slight compression of the veins, small hemorrhages, and cotton wool spots. The electrocardiograph showed a left axis deviation with possible myocardial changes.

Urine—alkaline; sp.gr. 1.010; heavy traces of albumin; no sugar; occasional granular and hyaline casts; many W. B. C. with clumps; few R. B. C. Twenty-four-hour urine output, 500 cubic centimeters. Blood Wassermann negative; 2,550,000 R. B. C.; forty-eight per cent hb.; 6,500 W. B. C.; sugar 115 milligrams; creatinine six milligrams; cholesterol 290 milligrams; serum albumin 3.1 grams; serum globulin 0.7 grams. (Is it possible that the elevation of cholesterol plus the lowering of serum protein was the result of the low protein diet?) Mosenthal test sp.gr.—1.004-1.007.

The patient gradually progressed downward. On December 19 she began to run a temperature of 101. The blood pressure varied between 250/140 and 170/100. In spite of an abundant fluid intake, the urine output gradually diminished daily—600, 500, 400, 300, 200, 100, fifty cubic centimeters. The urea nitrogen of the blood gradually climbed, and the patient became more and more apathetic. On December 22, 1936, the xanthoproteic reaction was strongly positive for serum aromatic amino acids. On Christmas Eve the patient was in comatous state. The breath was urinous, and a fine crystalline frost was on the face and chest. The pulse was of fair volume. The heart tones were fairly good; a systolic murmur was present over the precordium; a to-and-fro rub concomitant with the heartbeat was heard best in the

third interspace on the left. The end of the end stage chronic diffuse glomerulonephritis.

At necropsy the pericardium revealed marked recent acute fibrinous pericarditis with shaggy, reddish brown, friable masses adherent to the epicardium ("bread and butter heart"). The heart was moderately enlarged, weighing 370 grams. Myocardium tonicity was fairly good, although somewhat paler than normal. The coronaries showed slight atherosclerosis. The lungs showed slight congestion. The uterus was infantile and somewhat bicornuate. The tubes were small (sterility). Each kidney weighed fifty grams. They were very firm, reddish gray; the capsules were thickened but not adherent. Neither kidney showed deep scarring, but were somewhat granular, revealing a few dark red petechial areas surrounded by firm elevated grayish white areas. Fibrous scarring was fine and diffuse.

Histologically the kidneys revealed a picture of the end stage of chronic diffuse glomerulonephritis with replacement of most of the glomeruli by fibrous tissue.

CASE NO. 6—ACUTE DIFFUSE GLOMERULONEPHRITIS RUNNING A SEVERE SUB-ACUTE COURSE

The patient, a white housewife of thirty, was admitted to the Jewish Hospital on October 12, 1936, with the diagnosis of "acute nephritis." She had been well until six days before admission, when she began to complain of headache, fatigue, and spots before her eyes. These symptoms increased and on the third day swelling of the ankles and puffiness under the eyes appeared. She also began to vomit several times daily and had two to four liquid stools a day. Urine output was scanty, and she was brought into the hospital in a stuporous condition. Soon after admission she had two epileptiform convulsions, one involving the right side of the face and left arm and leg, and the other involving left side of the face and right arm and leg.

She has not had scarlet fever or diphtheria, and has never been pregnant. The tonsils were removed following an attack

of tonsillitis, four months before admission. At the time of the tonsillectomy the B. P. was 120/80, and the urine was entirely negative.

Examination revealed a well-developed, fairly well-nourished white female of thirty lying in a semistuporous condition, pale and sallow. T. 99, P. 130, R. 26, B. P. 210/100. The forehead pitted on pressure; there was suborbital puffiness; the pupils were equal and reacted to light; nystagmus to the right was present. There were moist rales in both bases. The heart tones were regular and forceful; A2 was louder and greater than P2; no murmurs were heard. The P. M. I. was in the fifth interspace in the left midclavicular line. The abdomen was negative. Pretibial edema was present, and the deep reflexes were exaggerated bilaterally in all four extremities. The spinal fluid was under increased pressure, the monometer reading twelve millimeters of mercury. The eye grounds were pale, but were otherwise normal.

Studies: Urine—acid reaction; sp.gr. 1.011; albumin—heavy cloud (plus two); sugar negative; loaded with granular and hyaline casts; clumps of W. B. C. and many R. B. C. Blood fifty-two per cent hb.; 2,700,000 R. B. C.; 6,400 W. B. C.; Wassermann negative; urea nitrogen thirty-eight milligrams; n. p. n. sixty milligrams; creatinine three grams; sugar 100 milligrams; chlorides 560 milligrams; serum albumin 3.5 grams; serum globulin 1.5 grams.

It was immediately realized that the patient was having a severe attack of acute diffuse glomerulonephritis. In the usual first attack most of the glomeruli are only partially blocked, and these furnish filtrate to the tubules for concentration; and though there is urea retention, the concentration power of the kidneys is not impaired. In this case the specific gravities of the Mosenthal test on October 20 varied between 1.002-1.004. On October 30 blood urea nitrogen was fifty-eight milligrams, and the urea clearance was eight per cent of the average normal. The blocking of the glomeruli must have been so severe as to remove all filtration function from most of them. The complete removal of many

glomeruli removes simultaneously the corresponding tubules and automatically eliminates the tubules' concentrating function.

During the patient's five-weeks stay in the hospital, the blood pressure fluctuated between 220/110 and 150/70. During the last week the twenty-four-hour urine output reached 1,000 cubic centimeters on a 2,000 cubic centimeter fluid intake. On November 2 b. u. n. was fifty-five milligrams, and urea clearance was six per cent of the average normal function. November 14 the blood urea nitrogen was still fifty-five milligrams, and urine was alkaline in reaction, sp.gr. 1.005, heavy traces of albumin (plus one), and occasional granular casts. The electrocardiogram, which on October 15 was normal, showed a left axis deviation on November 14. The patient was discharged to the care of her family physician on November 16 improved, but with a poor prognosis for the future in view of the failure of the B. P. and kidney function to return to normal. It was felt that the course of the disease would be that of a severe subacute diffuse glomerulonephritis.

On November 28, 1936, the patient was readmitted to the hospital in a critical condition. Since her discharge from the hospital on November 14 she had contracted a cough. Since then she had been nauseated and vomited on several occasions. The urine had been scanty. On arriving in the emergency ward, the patient had a convulsion with frothing at the mouth, muscular twitchings, and clonic contractions of all limbs. T. 99, P. 104, R. 28, B. P. 230/114. The breath was ammoniacal; the heart was slightly enlarged to the left, the tone was fair, and the rhythm was regular. There was dullness in both bases with greatly diminished breath sounds and numerous moist rales. Blood urea nitrogen was seventy milligrams; creatinine 4.1 milligrams. The patient died within fifteen hours after admission, having had twenty convulsions, each lasting thirty seconds to a minute. The clinical diagnosis made was acute exacerbation of subacute diffuse glomerulonephritis with hypertensive encephalopathy, uremia, and pulmonary edema. The term subacute is reserved to include those cases

running a severe course and dying with renal failure within nine months or a year.

We shall mention the salient points in the autopsy findings. There was marked pallor of all the tissues; a bilateral hydrothorax of moderate amount was present. Heart showed only a slight hypertrophy of the left ventricle. There was marked pulmonary edema, but there also appeared to be in both lungs a diffuse inflammatory reaction without consolidation, interstitial pneumonitis. The adrenals were grossly normal. Each kidney weighed 100 grams. The capsules stripped easily, leaving a very slightly granular surface. The kidneys were almost dead white; the surface was speckled here and there with black petechiae. Glomeruli could not be made out grossly. There was no suppuration. The ureters and urinary bladder were normal. The renal vessels were also normal. The uterus had the appearance and consistency of a virgin uterus; tubes and ovaries were normal. On microscopy there was edema and fragmentation of the heart muscle. The adrenals were normal. In the kidney almost every glomerulus was involved either in fibrous atrophy or in semichronic "demi-lune" formation; an acute arteriolitis was seen in some fields with edematous thickening of arteriole walls, splitting of the intima, acute hyalinization of the media, and acute or subacute thrombosis. Areas of parenchymatous atrophy were present in all sections. Pathological diagnosis was subacute diffuse glomerulonephritis.

This patient first came to us during her first attack of acute diffuse glomerulonephritis. The attack was so severe as to impair kidney function immediately, as shown by concentration test clinically. The kidney lesions failed to show signs of much improvement. While at home with her kidneys in the subacute (severe) state, a respiratory infection was superadded. This respiratory infection precipitated an acute exacerbation of the nephritis, which in turn brought about the hypertensive encephalopathy, the uremia, and the acute myocardial strain, and terminated the picture of diffuse glomerulonephritis within seven weeks of its onset.

Each kidney weighed only fifty grams. They were very firm, reddish gray; the capsules were thickened but not adherent. Neither kidney showed deep scarring, but were somewhat granular, revealing a few dark red petechial areas surrounded by firm, elevated, grayish-white areas. Fibrous scarring was fine and diffuse.

Histologically the kidneys revealed a picture of the end stage of chronic diffuse glomerulonephritis with replacement of most of the glomeruli by fibrous tissue.

SUMMARY

1. A correlation of the pathological physiology with the clinical picture of chronic

CLINICAL FINDINGS IN CHRONIC DIFFUSE GLOMERULONEPHRITIS

	Finding	Latent 1st Stage	Latent 1st Stage	Hypertensive 1st Stage	2nd Stage	3rd Stage	End Stage
1	Albuminuria	Slight	Heavy	Slight	Heavy	Slight	Slight
2	Hematuria	Present or not found	Same	Same	Same	Same	Same
3	Urine Sp. Gr.	Normal	Normal	Normal	Normal	Low	Low
4	Urine Volume	Normal	Normal or decreased	Normal	Normal or decreased	Increased	Much decreased
5	Hypertension	Absent	Absent	Present	Present	Present	Present
6	Nephrotic Edema	Absent	Present	Absent	Present	Absent	Absent
7	Serum Protein	Normal	Low	Normal	Low	Normal	Normal
8	Alb.-Glob. Ratio	Normal	Normal or reversed	Normal	Normal or reversed	Normal	Normal
9	Serum Nitrogen	Normal	Normal	Normal	Normal	Normal	Increased
10	Serum Chloride	Normal	Normal or increased	Normal	Normal or increased	Normal	Normal or increased
11	Serum Cholesterol	Normal	Increased	Normal	Increased	Normal	Normal or decreased
12	Urine Concentration Tests	Normal	Normal	Normal	Normal	Impaired	Impaired
13	Urea Clearance	Normal	Normal	Normal	Normal	Impaired	Impaired
14	Cardiac Hypertrophy	Absent	Absent	Absent or Slight	Usually Present	Present	Present
15	Albuminuric Retinitis	Absent	Absent	Absent	Usually Absent	Present or Absent	Usually Present

An acute exacerbation of nephritis superimposed on any stage may alter the above findings.

diffuse glomerulonephritis enables the physician to designate the patient's progress in his illness. Such an attempt has here been made.

2. A diagram of the succession of events in chronic nephritis has been offered.

3. The various stages may be determined according to certain clinical positive and negative findings.

4. In studying the patient, it must be remembered that certain factors may alter the clinical picture of the various stages. These factors may be secondary to nephritis or extrarenal. These extrarenal factors are: (a) acute exacerbation of nephritis, (b) secondary infection, (c) pregnancy, and (d) myocardial insufficiency.

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BENIGN UTERINE PAPILLOMA WITH ASSOCIATED MYOSARCOMA

J. C. MOBLEY, JR., B.S., M.D., Memphis

THERE are several features which unite to make this case interesting and reportable.

Papilloma of the endometrium is itself infrequently found. Dafoe in 1930 presented one case and reviewed the literature, finding only two others. These were similar to his case in symptoms and pathological findings, all being benign. I have not been able to find a report of other cases.

Sarcoma uteri usually occurs in women forty-five to fifty years of age, and is almost always secondary to a fibroma. This case satisfies neither expectancy. Instead, it favors the theory that traumatism and inflammation cause malignancy.

The diagnosis, papilloma, and associated myosarcoma was made on pathological examination; nor could it have been otherwise, for the classical symptoms and findings were absent. The patient's complaint was obviously due to a complete prolapse of the uterus.

CASE REPORT

Mrs. T. D. S., white, housewife, gravida ii, para ii, age twenty-seven.

Family History.—Negative for cancer.

Past History.—Seven years ago, prior to marriage, had occasional attacks of pain in the right lower quadrant. On operation the surgeon removed the appendix, the right tube, and a cystic right ovary. Menses were regular and without dysmenorrhea after this. Four years ago her first baby was born. An episiotomy was not done, and there were no visible lacerations. However, she later had bearing-down sensations, backache, and abdominal pains which her physician said were due to a "loose womb." Her second child was born one year ago. She started menstruating the first month post partum and continued regularly until onset of present illness.

Present Illness.—Two months ago the patient began to complain of frequent pain in the lower back, occasional discomfort in

the lower abdomen, and a dropping sensation in the pelvis and abdomen. She had missed a period, and so she went to her physician, who said she was not pregnant; he then initiated a scanty menstrual flow by a uterine injection. Since then she has become progressively worse, and about three weeks ago noticed the mass protruding from the vagina.

Physical Examination.—T. P. R. normal. B. P. 124/94. Pallor of mucous membrane. Cervix and lower portion of uterus seen protruding from the vagina. Slight mucosanguinous discharge from the cervix, which was much enlarged and elongated, and presented rather marked inflammation and excoriation.

Preoperative Course.—Patient was put to bed in order to reduce the prolapsed uterus. For the next ten days she bled profusely and cramped considerably. After this ceased, a pelvic examination was done. The cervix was improved; the uterus was possibly enlarged and softened, retrodisplaced, and painful on motion; the left ovary was tender, slightly enlarged, and softer than normal. A pessary was inserted, and the patient was prepared for operation. The diagnosis at this time was: cystocele, rectocele, complete prolapse of uterus, possible oophoritis and salpingitis, left.

Operation.—Cauterization of cervix; supravaginal hysterectomy; left salpingo-oophorectomy. The uterus was very soft and easily torn. The left tube and ovary had a few friable adhesions. The left ovary was cystic and had no demonstrable functional tissue.

Postoperative Course.—Negative except for urinary tract infection. Five hundred cubic centimeters of blood was given to counteract the preoperative anemia and to boost convalescence. After healing of the wound, the patient was surrendered to the radiologist for deep irradiation because of the possibility of extension or early metas-

tasis. Her subsequent course (one month) has been excellent.

Pathology.—"Specimen in two pieces—largest is uterus. The serosal surface shows bloodstained fibrous tags. It is increased in size. The cut surface shows a papillomatous soft growth from the posterior surface midway between the fundus and the os. The line of demarcation between this growth and the muscle beneath is indefinite. The muscularis is soft and easily torn. Gross appearance is that of malignancy.

Microscopic.—"Section through papillomatous growth shows a greatly changed appearance of the uterine glands. The uterine muscle is infiltrated with large giant cells and small round cells. The giant cells appear hyperchromatic and are surrounded

with cytoplasm resembling muscle tissue. The uterine glands are so distorted as to make their identity uncertain. The lining cells appear benign. There are also areas of necrosis and small masses of hemosiderin scattered among the papillomatous masses. The blood vessels show marked intimal thickening. Many are occluded. Microscopic feature is indeed queer with striking features of tumor formation with associated infection.

Conclusions.—"Benign uterine papilloma with associated infection and hemorrhage and associated myosarcoma."

This report was made by Dr. J. A. McIntosh, pathologist of the St. Joseph Hospital.

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H. H. SHOULDERS, M.D., Editor and Secretary

JUNE, 1939

THE ISSUE

SHALL PATIENTS AND DOCTORS RETAIN THEIR FREEDOM OF JUDGMENT IN THE MATTER OF MEDICAL CARE, OR SHALL THIS FREEDOM BE SURRENDERED TO SOME GOVERNMENTAL AGENCY?

EDITORIAL

A SENTENCE WELL PUT

Dr. Haven Emerson in testifying against the Wagner Bill is quoted as making the following statement:

"Neglected sickness is less often the cause of economic misfortunes than vice versa."

An effort has been made through propaganda to convince the public that illness is the most frequent cause of economic distress. The obvious intention of the propaganda is to leave the thought that if enormous sums of money were placed at the disposal of certain federal agencies, they, in turn, would either stop illness or cure illness and thereby correct the economic difficulties created by illness.

For some years we listened to propaganda to the effect that education would cure both poverty and crime. Enormous sums have been spent, but poverty and crime are both still with us to as great an extent, if not a greater extent than was ever the case before.

This is not an argument against educa-

tion. It is a statement against ruthless and unwarranted propaganda.

There is no more certain way for people to lose their liberty completely than by placing all the problems of medical care in the hands of government agencies. Such a step would accomplish the creation of such an enormous bureaucracy exercising its domination over patients and doctors, and, in addition, dominating the policies of the people, that humanity would find it extremely difficult to extricate itself from such domination and again recover liberty.

It might be well for people to think a little bit about what the loss of liberty would mean.

We are told that almost one-fourth of the entire income of all the people is paid to governments in the form of taxes.

We are told also that the City of Washington has the largest per capita income of any city in the United States.

These facts leave food for thought too—certainly taxpayers are not neglectful of their own financial interests.

HEARINGS ON THE WAGNER BILL

It is believed that the readers of the JOURNAL will be interested to know something of the news and editorial comment that have been made on the Wagner Bill. We, therefore, are using the following clip-pings:

1. Editorial in the *New York Herald Tribune* for May 29:

First Aid to Public Health

"It may be that physicians as a professional group are naturally opposed to anything suggesting socialized medical care, such as the national health program embodied in Senator Wagner's bill. But in the case of Dr. Haven Emerson it is hard to believe that a narrow professional prejudice animates his objections to the Wagner program. For Dr. Emerson is identified in this city and throughout the country with the public health service and hence represents a point of view much broader than that of the average private practitioner. And it is his opinion, as expressed to the subcommittee of the senate which is con-

sidering the Wagner Bill, that what the country needs is not millions from the treasury to provide the underprivileged with medical attention, but the 'establishment of sound economic and employment conditions.'

"The same argument has been stressed already in these columns. When, nearly three months ago, it was first proposed that congress appropriate \$80,000,000 to launch the country on a course of public health commitments, which in the end would cost infinitely more, we protested on three grounds: one, that for the present the country simply could not afford the expenditure; second, that the public health was never better (as testified to by the President's investigators) and thus no emergency existed to justify the outlay; and, third, that as a measure of national prophylaxis no deficit-spending to provide medical care could compare with a restoration of prosperity and employment.

"Dr. Emerson is even more realistic. 'As the major cause of insufficient care for the sick and for health,' he told the senate subcommittee, 'is lack of earning power and the dislocation of commerce, industry, and production and demand for goods, characteristic of the last eleven years,' the remedy is evidently to 'correct the error rather than enlarge spending programs by government which do not lead to any basic improvement in the incomes of wage earners.'

"In other words, the solution of the problem, according to Dr. Emerson, consists not in further discouraging recovery by putting doctors on the public pay roll, but, by the stimulation of private enterprise and employment, in giving their prospective patients the modest wherewithal to command their services. The formula, no doubt, is a little too simple. Even with recovery we should probably need a reform of the present system. But from any point of view it seems obvious that recovery should be the government's first consideration as a public health measure, not only because it will enable a much larger proportion of the working population to pay doctors' fees, but because in itself it will prove an antidote for those countless ills which are caused by the

depression of insecurity and unemployment."

2. News item from the testimonial given by Dr. Morris Fishbein before the Senate Committee:

Fishbein Says Health Program Spurs Doctors—Profession's Offer to Aid Was Ignored by Wagner Bill Drafters, He Testifies

"Washington, May 26.—Dr. Morris Fishbein, editor of *The Journal of the American Medical Association*, told a Senate Education and Labor Subcommittee today that the Wagner health bill was a move toward a significant change in medical practice in this country 'which has completely disregarded repeated efforts on the part of the medical profession to be of aid in conference, in advice, in the development of basic data.'

"'It is a drive,' he said, 'which began apparently with the national health survey, was reinforced by the development of the interdepartmental committee to co-ordinate health and welfare activities, was exploited through the national health conference, where for the first time there appeared the national health program, and culminates in the proposed Wagner health bill.

"'The drive toward the objective, which seems to be a sudden vast increase in spending poorly controlled, has been well-nigh ruthless in its disregard of all efforts to modify its technic, mitigate its scope, or substantiate the data on which its recommendations are based.'

"Dr. Fishbein said that he had no doubt that there were unsatisfied health needs and medical care needs in the nation. Some of these, however, were inextricably bound up with the economic situation of the states concerned, and mere attention to the problem of medical care alone would hardly alter the vital statistics by which accomplishment in the medical field was measured, he said.

"'The National Health Survey,' he said, 'reported that seventeen per cent of people in families with incomes of \$3,000 a year or over failed to obtain medical care for chronic disabling illness. Why did they not

secure it? There is offered no answer to the question, but surely this seventeen per cent must then be deducted from the figure of thirty per cent of persons in the income class of \$2,000 a family or less who failed to receive medical care for chronic disabling illness.

"It has been said that twenty-eight per cent of people on relief failed to obtain care for chronic disabling illness, but again no reason why since in many places persons on relief are entitled to medical care merely by asking for it.

"The advice of the entire personnel of the American Medical Association and the facilities have been repeatedly offered, and are again offered to various governmental agencies in an attempt at cooperation in meeting scientifically determined needs without lowering the standards of medical education and medical service and without entering on a philosophy of governmental administration of medical cares far removed from the democratic system of government."

"Dr. Charles C. Lund of Boston, chairman of the committee on state and national legislation of the Massachusetts Medical Society, offered the following four-point program of objectives for any legislation concerned with the public health:

"1. Unification of most of the present medical services of the federal government, except for the army and navy services. All future medical activities should be added to this group.

"2. Representative medical advisory councils to work with the federal and state medical officers.

"3. Expansion of activities where clear evidence of need for expansion is proven.

"4. Support of existing recognized hospitals, rather than building new governmental ones for the care of the indigent, thus reducing the number of vacant hospital beds instead of increasing them."

3. A statement by Dr. J. Bayard Clark, May 22, published in the *New York Herald Tribune*:

Doctors as Serfs—A Physician Attacks National Health Bill

"At present many people show signs of

not fully appreciating what political leaders have in store for the doctors. They do not realize these leaders are discovering in the profession a very useful and profitable tool which is highly desirable from a political point of view to have incorporated with their own erstwhile activities. That the physician forfeits his own individuality and communal influence built up through the ages is to the politician apparently of little concern.

"That there is a very real danger all doctors may soon be absorbed in a vast scheme of state medicine is quite evident. They then will be hired and fired like other employees. On the first of the month they will receive their pay envelopes like other clerks.

"Where has the dignity of the profession fallen? Those who were once leaders are now to be hirelings. Must the profession keep reminding itself and the public of what a free and independent medical profession has given to civilization? That through the struggles and self-sacrifices of its individual members the sudden and most dreaded scourges of mankind have been wiped out or held in check? That whole countries have been made habitable places? That commerce can function only when supervised by its sanitary ruling? That cities can exist only by its protection of their water and milk supplies and its direction of public health? That warfare can only be waged by the assurance of its participation? Here, indeed, is a power and influence, as well as a value, that political leadership would like well enough to call its own. The tragedy is that others see what many physicians do not.

"The medical profession should prepare to protect its own place and influence in the present scheme of civilization. The thoughtful people of this land must not allow the political measure called a national health bill now before congress to become law.

"If this bill is passed, American physicians are likely to become mere serfs working under the orders of a few desk doctors who, no matter how high their purpose, have unfortunately no real experience in the practical affairs of looking after the

sick. As in Germany, where medicine is under state control, illness and deaths will increase and the working efficiency and productiveness of the people will decline; even epidemics thought to be banished will return. When the doctor has lost his freedom and his initiative and becomes a federal employee his services to the sick will be of very little value—a high price for the public to pay.

"Certainly there are many adjustments the profession must make in order to harmonize its own scientific advancements to the rapidly shifting social and economic scene. These adjustments, of which the medical profession is acutely aware, cannot be made, however, while its freedom is threatened by a vast scheme of political reform initiated to give yet more power to centralized government.

"Freedom of action is quite as important to the medical profession as freedom of speech to the press or the pulpit, if we are to preserve the liberty bequeathed to us by the founding fathers of this nation."

THE POSSIBLE ACCOMPLISHMENTS OF SENATE BILL NO. 1620, COMMONLY KNOWN AS "THE WAGNER BILL"

Some years ago a Russian leader by the name of Lenin gave some potent advice to his communistic followers in the United States. It was to this effect: Establish communism in the United States by degrees, not by revolution.

It is appropriate to approach the consideration of this bill with the above piece bit of advice in mind.

A basic principle in the Wagner Bill is this: It places federal funds to the credit of several different administrative agencies in Washington, viz.: the Children's Bureau in the Department of Labor, the Surgeon General of the United States Public Health Service, and the Social Security Board and vests in these several agencies the power to make regulations concerning the expenditure of funds in the various states and, in addition, the power to reject the plan drawn by the various states for the administration of the funds in the state.

In brief, all the agencies in the various states would be compelled to bow to the dictates of a federal agency in Washington, or fail to obtain that state's share of the funds. By such a step the federal agency could secure complete political control of all the health agencies in a state, county, and municipality. It could obtain control of the policies of these various agencies and so on down through the various other agencies.

With such a control accomplished the next step might easily be the establishment of a communistic form of medical practice introduced under the guise of a welfare measure. We, therefore, repeat that the issue before the American people and the medical profession on this question of medical care is this: "Shall patients and doctors retain their freedom of judgment in the matter of medical care, or shall this freedom be surrendered to some government agency?"

THE ACTION OF THE HOUSE OF DELEGATES OF THE AMERICAN MEDICAL ASSOCIATION ON THE WAGNER BILL

On another page of this issue of the JOURNAL will be found the report of the special reference committee appointed by the Speaker to consider the Wagner health bill. This report was considered by the House and adopted without a dissenting vote.

It will be remembered that an extraordinary session of the House of Delegates of the American Medical Association was held in September, 1938, for the purpose of considering the National Health Program.

The National Health Program consisted of five different proposals. The House of Delegates acted on these proposals. The results of this action have been widely published in medical journals. Notwithstanding this fact, some doctors have misconstrued the action taken or misinterpreted the action taken.

The sponsors of the National Health Program drafted a legislative program for submission to the congress. The Wagner Bill embraces four of the five proposals in the

National Health Program. Health insurance was eliminated.

The House of Delegates of the American Medical Association in St. Louis, therefore, had before it a specific piece of legislation for consideration, whereas in the extraordinary session some rather vaguely drawn proposals were before the House.

The House of Delegates took specific action in St. Louis on a specific bill and stated the objections of the American Medical Association to the bill in specific language.

Each doctor in the state knows best how he can be of service in securing the defeat of this legislation. The action of the House of Delegates of the American Medical Association gives a definite basis on which to proceed. The opposition of American medicine to this legislation is based on consideration for the general welfare.

DEATHS

DR. J. A. P. SHIELDS

Dr. J. A. P. Shields, Hartford; Chattanooga Medical College, 1902; aged sixty-nine; died January 17.

NEWS NOTES AND COMMENTS

We are informed by the American Red Cross that they have prepared a one-reel film showing the work of the society. It is not a commercial moving picture, but is distributed to any group that might wish to exhibit it, the only charge being for transportation.

Any societies interested may obtain full particulars from Leo A. Pollock, 150 West Eighty-Second Street, New York, New York.

The American Public Health Association has recently adopted five reports dealing with "Educational Qualifications of Public Health Statisticians," "School Health Educators," "Public Health Engineers," "Sanitarians," and "Subprofessional Field Personnel in Sanitation."

A copy of each report is sent you in the hope that you will find it possible to carry an item in your JOURNAL announcing their availability.

These reports are distributed free of charge in the hope that they will serve a useful purpose in raising the educational standards of professional public health personnel.

Copies may be secured from the Book Service, American Public Health Association, 50 West Fiftieth Street, New York, New York.

WOMAN'S AUXILIARY

President-----Mrs. Matt Murfree
Murfreesboro
President-elect-----Mrs. W. T. Braun
Memphis
Press and Publicity-----Mrs. R. Z. Linney
Madison

DAVIDSON COUNTY AUXILIARY REPORT

Mrs. Joe Travenick, Jr., was elected president of the Woman's Auxiliary to the Nashville Academy of Medicine and the Davidson County Society at a luncheon meeting held Friday at the home of Mrs. W. W. Wilkerson, Jr., on Curtis Woods Lane. Joint hostesses were Mrs. T. Fort Bridges, Mrs. Frank Luton, Mrs. Ruben Gayden, Mrs. H. E. Patey, and Mrs. Hollis Johnson.

The guests were seated for the serving at small tables placed throughout the reception rooms of the home. Spring flowers were used as decorations.

Reelected to serve with Mrs. Travenick were: Mrs. T. G. Pollard, vice-president, and Mrs. George Holcomb, corresponding secretary. New officers chosen were: Mrs. T. F. Frist, recording secretary; Mrs. Ruben Gayden, treasurer; and Mrs. James T. Hayes, historian.

Reports were given of the state convention held in Jackson by Mrs. Travenick.

Mrs. Milton Lewis, Mrs. E. L. Rippey, and Mrs. Carl McMurray. Plans were completed for sending a member of the Girl Scout troop sponsored by the auxiliary to the Montgomery Bell Camp. Mrs. Willard O. Tirrill, Jr., and Mrs. Herman Spitz were welcomed as new members.

PRESIDENT'S REPORT GIVEN AT JACKSON,
TENN., APRIL 12, 1939
(Condensed)

*To the Members of the Woman's Auxiliary
of the Tennessee State Medical Association:*

I herewith present a report of my stewardship of the responsibility entrusted to me from time of my election as president in April, 1938, to the present time, April, 1939.

It was with a feeling of deep humility that I assumed the duties of president. My predecessors had established records of fine achievement. I hoped I could continue worthily. Lengthening the path of usefulness, extending the field of activity, increasing the number of organizations and persons participating, were some of the objectives I pictured in my imagination. To this end I have given my time and energy.

My outline of plans included a visit to each auxiliary during my term of office. In this I succeeded. During each month except July I have attended from one to four meetings pertaining to auxiliary work.

Through the courtesy of the state auxiliary I was privileged to attend the national meeting in San Francisco in June. This meeting was a great inspiration and pleasure. Meeting and knowing those who have an important part in drafting the plans and outlining the policies of the auxiliaries over a period of years gives a feeling of reality and permanence that is helpful to a new president. I commend the auxiliary for the custom of sending the president to the national meeting.

I prepared a report of this meeting which appeared in the August issue of the STATE MEDICAL JOURNAL.

For the beginning of the club season an executive board meeting was held in Nash-

ville at the Hermitage Hotel in September. There were present five from West Tennessee, four from East Tennessee, eight from Middle Tennessee, and two national officers as guests. All members gave outlines of their prospective work and the program chairman gave a suggested outline following the lines of the national auxiliary. A delicious luncheon, arranged by Mrs. J. A. Scott, vice-president for Middle Tennessee, was enjoyed.

In November I attended the National Executive Board meeting in Chicago. This meeting was a further inspiration to me, as I was privileged to see how a huge organization of 20,000 women plans its work so that no hitch or error is likely to occur. Each officer showed a desire to carry her part of the responsibility and all seemed to have a clear and definite understanding of what was expected of them. Representatives were there from forty-one states. I prepared a report of this meeting and mailed a copy to each auxiliary president and some chairmen.

In January I made a trip through Middle and West Tennessee contacting Madison, Shelby, Davidson, and Rutherford Auxiliaries. Two sectional board meetings were held on this trip to discuss the program for the state meeting. I also conferred with Dr. H. H. Shoulders, secretary to the Tennessee State Medical Society, who has been most helpful to me in many ways. To him I extend my personal thanks.

In summarizing the year's work I may say that we have had a very satisfactory year. The larger auxiliaries are doing excellent work, making themselves a power in their own localities. The smaller organizations are keeping step and growing more closely knit year by year—all are proving themselves worthy to be called auxiliaries to the medical societies. The reports show their cooperation in carrying out the objectives of the organization.

I have attended two national meetings, two state meetings, four sectional meetings, and fifteen county meetings—twenty-three in all. I have written six reports, nearly 200 letters, and have traveled nearly 9,000 miles.

I take pleasure in reporting two new auxiliaries — Lincoln County and Madison County—and an increase in membership of fifty-six, making a total membership of 364 for Tennessee.

I have been busy but happy. My association with the wives of physicians this year convinces me, more than ever, that no class of women can excel them in graciousness, ability, and worth-while ambition.

To each and all I extend thanks and grateful appreciation for the loyal support given me throughout the year.

(Signed)

MYRTLE FERGUSON CHRISTENBERRY.

MEDICAL SOCIETIES

Davidson County:

In addition to the scheduled papers as published last month, two other numbers appeared on the program:

May 23—"Case Report: Gunshot Wound of the Chest," by Dr. M. B. Davis.

May 30—Dr. Percival Bailey, professor of Neurology and Neurosurgery of the University of Chicago, was the guest speaker.

The next meeting will be the first Tuesday in September.

Dyer, Lake, and Crockett Counties:

The Dyer, Lake, and Crockett Counties Medical Society met on June 7 at Nanny Boyett's Dining Room, Reelfoot Lake. The scientific program consisted of the following papers:

"Arthritis," by Dr. O. B. Landrum, Dyersburg.

"Conservative Management of the So-called Dead Kidney with Illustrative Cases," by Dr. Thomas D. Moore, Memphis.

"Modern Concepts in the Treatment of Compound Facial Injuries," by Dr. Wm. Milton Adams, Memphis.

"The Medical Treatment of Gall-Bladder Disease," by Dr. Lyle Motley, Memphis.

"Tularemia," by Dr. John Hughes, Memphis.

"The Diarrheas of Infancy and Childhood," by Dr. James Hughes, Memphis.

Hardin, Lawrence, Lewis, Perry, and Wayne Counties:

The Five-County Medical Society met in Waynesboro on May 30. The following papers were read:

"Cancer of the Colon and Rectum," by Dr. L. W. Edwards, Nashville.

"Oral Sepsis," by Dr. A. G. Butler, Lawrenceburg.

"Hypothyroidism," by Dr. W. E. Boyce, Flat Woods.

"Diagnosis and Treatment of Brain Tumor," by Dr. Thos. D. McKinney, Nashville.

Dr. Willis Thompson, who is giving the course in pediatrics, was present and gave an interesting talk.

(Signed) DR. O. H. WILLIAMS, Secy.

OTHER MEDICAL SOCIETIES

The Southeastern Section of the American Congress of Physical Therapy will hold a meeting in Jacksonville, Florida, at the Hotel George Washington, July 10.

The preliminary program which has been issued indicates the following several themes of general interest are to be discussed. Among these are: "Ultraviolet Irradiation"; "Radium in Certain Types of Uterine Hemorrhage"; "X-ray in Benign Uterine Conditions"; "Relation of Physical Therapy to Orthopedics"; "Electrosurgery in Operations on the Brain and Spinal Cord"; "Organization and Work of the Council on Physical Therapy of the American Medical Association"; "Round-Table Discussion on Poliomyelitis."

For full information write the secretary, Dr. Kenneth Phillips, Suite 609, Huntington Building, Miami, Florida.

The Middle Tennessee Medical Association met in Columbia, May 25 and 26. The following officers were elected: Dr. Matt Murfree, Murfreesboro, President; Dr. Hollis Johnson, Nashville, Vice-President; Dr. C. F. Hollabaugh, Nashville, Secretary-Treasurer.

The next meeting will be held in Springfield.

The constitution was amended so that the future meetings will be one-day sessions followed by a social event.

The West Tennessee Medical and Surgical Association met in Huntingdon on May 25.

Dr. J. P. Baird of Dyersburg was elected president.

The next meeting will be held in Jackson.

The forty-fifth annual meeting of the Upper Cumberland Medical Society met in Cookeville, June 13 and 14.

The next sectional meeting of special interest to the doctors of Tennessee will be the Tennessee Valley Postgraduate Medical Assembly. The dates of the meeting are June 28, 29, 30.

As usual the program will be rendered by physicians of national reputation.

The Knoxville doctors will sustain their reputation in making this the outstanding meeting in that section of the state.

If you have not received your program address Dr. Jesse C. Hill, Doctors Building, Knoxville, Tennessee.

The Tennessee Pharmaceutical Association will meet in Memphis, July 18, 19, 20.

Dr. R. G. Leland will address the association on Wednesday, July 19, at 11 A.M.

The secretary of the association invites the medical profession of the state to visit the association during this convention. We are sure that many items on the program will be of interest to physicians, as well as Dr. Leland's discussion of the economic condition as it affects both doctor and druggist.

VANDERBILT MEDICAL SOCIETY MEETING, MAY 12, 1939

1. "Undulant Fever: Report of a Case Treated with Sulfanilamide." Dr. Albert Weinstein.

Mrs. H. M., sixty-two-year-old white female, had had intermittent fever for one

month, with sweating, anorexia, and loss of weight. General examination essentially negative; spleen could not be felt and no joint abnormalities were found. Urine normal. Blood counts normal, except for a leukopenia (6,000); normal differential. Agglutinations all negative. Brucellergin skin tests strongly positive. Blood cultures sterile. Opsonocytophagic index negative.

Patient was given sulfanilamide in full therapeutic doses for one week; she became afebrile and has remained so. Opsonocytophagic index shifted abruptly on fourth day to a strongly positive reaction. Agglutinations became positive, 1:640. To date patient has remained well and opsonocytophagic activity remains strikingly high.

This paper was discussed by Drs. A. E. Keller and Hugh J. Morgan.

2. "Partial Obstruction of the Duodenum from Extrinsic Causes." Dr. Elkin Rippy.

One of the organic causes of upper abdominal pain, which is frequently overlooked, is chronic dilatation of the duodenum, known as duodenal stasis. This condition is extremely rare in the records of the hospitals, but probably occurs with more frequency than our records reveal, since the review of the local cases reveals the fact that most of these cases have been operated on from one to three times for other conditions before the actual cause of the pathology was determined.

In the analysis of the records of local hospitals there were found twelve cases. Of these the author was fortunate enough to have three, which were reported in complete detail. First case, due to gall bladder almost encircling the duodenum and obstructing; second, large tumor of body of pancreas; third, pressure from superior mesenteric vessel on third portion of duodenum.

This paper was discussed by Drs. John B. Youmans and George Johnson.

3. "The Progressive Attenuation of Insulin by Interfacial Adsorption." Dr. J. M. Johlin.

When aqueous solutions of crystalline insulin are subjected to catalytic action of surface concentration and orientation by emulsification with chloroform for six to

eight hours, practically all of the insulin is converted into an insoluble birefringent product whose physiological behavior is similar to that of other insoluble insulin products such as protamine insulin. Insulin so modified remains insoluble at pH 2.5, at which pH insulin solutions are usually prepared. Insulin, similarly treated for four hours or less, exhibits physical properties and physiological behavior of untreated insulin. When treated for eight hours or longer, its insulin activity is gradually diminished as treatment is prolonged. Commercial insulin is not as readily attenuated as crystalline insulin. Data obtained from several hundred experiments in which various insulin fractions were injected into standardized rabbits and blood sugar determinations made at repeated intervals following. The insulin distribution among different fractions was determined by nitrogen determinations. Insulin solutions used were prepared at pH of 2.2-2.5 with saline acidified with HCl or adjusted with .02M McIlvaine's buffer.

This paper was discussed by Drs. C. S. Robinson and Hugh J. Morgan.

ABSTRACTS OF CURRENT LITERATURE

ANESTHESIA

By HUGH BARR, M.D.
Medical Arts Building, Nashville

Anesthesia, the Practice of Medicine? An Important Canadian Legal Decision. Decision by Honorable Judge Jean J. Denis, Montreal, Canada. Current Researches in Anesthesia and Analgesia, May-June, 1939.

A damage suit was instituted by a widow against a surgeon and The Royal Victoria Hospital following the death of her husband during anesthesia. The plaintiff claimed that the death of her husband was due chiefly to the facts that the anesthetic was not administered according to the rules of the art and common usage, and this with the knowledge of, and with the authorization of the defendants or their representatives. The anesthetic was not given with all precautions required by the rules of the art before and during the course of the operation, and this to the knowledge and with the permission of the defendants or their representatives. The person or persons to whom the administration of the anesthetic was entrusted proceeded negligent-

ly and without precautions. The nurse, representative of the defendants, and by their orders, practiced and administered anesthesia contrary to the law. The defendants denied these allegations.

In his decision Judge Denis made the following remarks: That during anesthesia complications and unforeseen situations may arise dangerous to the patient and death may occur. Experienced physician anesthetists may almost always see and combat these situations. The judge overruled the plaintiff's claim of lack of preliminary precautions and other claims, stating that, notwithstanding the anesthetic was administered by a nurse which was illegal, the actual cause of death was not proven whether from an embolus, shock, or a complication due directly to the anesthetic with absolute certainty, and the most one can say is that the death was probably due to the anesthetic.

The action was dismissed due to the insurmountable difficulty for the plaintiff to furnish technical proof.

Following this opinion the registrar of the College of Physicians and Surgeons of the Province of Quebec sent a circular letter to all the hospitals in the province calling attention to the illegality of nurse anesthetists. The hospitals employing them replaced them by physician anesthetists.

DERMATOLOGY

By E. E. BROWN, M.D.
Doctors Building, Nashville

Treatment of Lupus Vulgaris by Injections of Starch U. S. P. (Cornstarch). Archives of Dermatology and Syphilology, March, 1939.

On the bases of Chambers and Grand's demonstration that starch is a good chemotactic agent for leukocytes, the authors concluded to try starch injections into the nodules of lupus vulgaris.

U. S. P. cornstarch was sterilized by baking at 150 centimeters in an oven. A fifteen per cent suspension was prepared and its use begun on a negro patient, aged fifty-seven, who had had a lesion on his left cheek for twenty-four years.

From one-tenth to three-tenths of a cubic centimeter of the solution was injected into the edge of the lesion in three or four areas and repeated each two weeks.

The results obtained was apparent cure. The patient had previously had all the various treatments heretofore recommended without any apparent improvement.

Urticaria: A New Therapeutic Approach. H. A. Rusk and B. D. Kenamore. Ann. Int. Med., 11: 1838, April, 1938, A., Der. and Syph.

Six persons with urticaria were treated by administration of a diet high in protein and low in sodium, with an acid ash, to which potassium

chloride was added. All the patients responded satisfactorily to the treatment. The treatment is based on the assumption that in cutaneous irritability and inflammation the metabolism of potassium is altered and that an increase in potassium in the skin causes a decrease in local irritability.

OBSTETRICS AND GYNECOLOGY

By HAMILTON V. GAYDEN, M.D.
Suite 234 Doctors Building, Nashville

Myomectomy During Pregnancy. R. A. Reis and M. B. Sinykin. *American Journal of Obstetrics and Gynecology*, Vol. 37, p. 834, May, 1939.

It is only when pregnancy occurs in relatively older women or when fibroids develop unusually early that the presence of fibroids may complicate pregnancy. It is a well-known clinical fact that fibroids increase in size during the course of pregnancy. Such enlargement has been variously attributed to: (1) hypertrophy and edema of the tumor, (2) hyperplasia with edema, (3) actual growth concomitant with uterine growth. Eighteen pregnant women were subjected to myomectomy for various indications during the past fifteen years at the Michael Reese Hospital. The authors state the indications for myomectomy are acute degenerative changes, hemorrhage, infections, twisted pedicle, or rapid growth, together with encroachment upon the birth canal. The recommended technique must include minimal handling of the pregnant uterus; the myomectomy with the uterus in situ if possible; complete avoidance of the uterine cavity; careful hemostasis and peritonization; removal of only the guilty fibroid. Myomectomy during pregnancy, according to the authors, is a comparatively safe procedure for both the mother and the fetus, and should be performed promptly whenever indicated.

OPHTHALMOLOGY

By ROBERT J. WARNER, M.D.
Doctors Building, Nashville

Fate of Patients with Phlyctenular Disease with Particular Reference to Tuberculosis. A. Ajo. *Archives of Ophthalmology*, May, 1939.

This monograph first gives a historical review of ideas which have been held in regard to the etiology and pathogenesis of phlyctenular disease. It then deals with the question of the prognosis of ocular phlyctenulosis with particular regard to the later development of tuberculosis.

In the University Eye Clinic at Helsingfors, Finland, there were 449 patients with phlyctenular disease between 1912 and 1927. The author succeeded in tracing 367 of these patients. He found

that fifty-five had died. Tuberculosis was the cause of death of thirty-five and for four more it was the probable cause, making the mortality rate for tuberculosis 10.62 per cent. This is about double the mortality rate for tuberculosis for persons of the same age group in the general population of Finland.

Of the former patients still living, 100 were thoroughly examined. Fifty were found free from disease. Thirty-nine of the remaining fifty patients showed tuberculous changes. Five showed changes which were probably tuberculous and six other pathologic changes. Pulmonary tuberculosis was found in seven patients. The author concludes that it may not be held that patients with phlyctenular disease will be spared later severe tuberculosis.

ROENTGENOLOGY

By FRANKLIN B. BOGART, M.D.
Medical Arts Building, Chattanooga

The Roentgen Diagnosis of Intussusception. Kirsner, J. B., and Miller, J. F. *Radiology*, Vol. 31, No. 6, p. 658, December, 1938.

Intussusception usually occurs in infancy. In infancy the exciting cause is unknown, but in older children and in adults the exciting causes are ulceration of the bowel, Meckel's diverticulum, and abnormal growths such as polyps, myomas, lipomas, or cysts. Malignant tumors, which grow in the direction of the bowel lumen and do not cause fixation of the intestines to the surrounding structures, may also cause invagination.

The four common types are:

1. Ileocecal—the most frequent, in which the ileum and ileocecal valve pass into the cecum.
2. Colic—in which the large intestine is prolapsed into itself.
3. Enteric (ileal)—in which the small bowel alone is involved.
4. Ileocolic—in which the ileum prolapses through the ileocecal valve.

When the intussusception occurs, there may be considerable space between the sheath and the invaginated portion, allowing considerable mobility of the intussusception and accounting for the frequent spontaneous reduction which occurs. When a simple intussusception occurs, an actual block does not exist in the intestinal lumen until twisting and compression interferes with the mesenteric blood supply and results in congestion and edema. Ulceration, gangrene, and perforation may follow.

The author reviews the literature and briefly reports seven cases. The X-ray findings are discussed:

CONCLUSIONS

1. The most frequently described roentgen signs of invagination are:

- a. Obstruction to the barium enema with a filling defect.
 - b. Mobility of the obstruction under manipulation.
 - c. Palpable mass.
 - d. Passage of barium between the intussusceptum and intussuscipti.
2. The X-ray examination is a definite aid in the diagnosis of intussusception involving the large bowel.

SURGERY—GENERAL AND ABDOMINAL

By BATTLE MALONE, II, M.D.
1400 Monroe Avenue, Memphis

The Treatment of Acute (Nontuberculous) Empyema by Irrigation and Negative Tension. Lew A. Hochberg, M.D., and Peter Fiore, M.D. *Surgery*, Vol. 5, May, 1937.

In all of the standard methods of treating empyema cases the mortality is about the same, but there is a wide variation in the morbidity. With the method described by the authors the morbidity at Kings County Hospital has been reduced from fifty-three days of postoperative hospitalization to 37.3 days. Furthermore, with this method, the lungs were completely expanded and the sinuses healed on discharge. The method of treatment suggested is most applicable in empyemas due to pneumococcus or streptococcus or a combination of these.

In pneumococcal empyema, which is usually secondary to a pneumococcal pneumonia, the pus is relatively thick and the coagulum becomes more organized. In simple intercostal drainage the tube is frequently clogged up with the coagulum or if the tube is very large too much air enters the pleural cavity. With the authors' method general anesthesia is used in children and local in adults. Usually the eighth rib is resected for about 1.5 inches in the axillary line. The parietal pleura is incised and the suction tip is introduced to evacuate as much pus as is possible. The incision in the pleura is enlarged and under direct vision the cavity is aspirated followed by irrigation with saline. As much of the coagulum as is possible is removed. A rubber tube one-half inch in diameter with a one-inch collar drawn to about 1.5 inches from the tip is placed in the pleural cavity and the pleura is closed tightly, fixing the tube in place. The skin is closed with silk and the pleural cavity is filled with normal saline. An airtight dressing is applied around the tube and the patient is placed in a semisitting position. The tube is connected to a Y tube, the upper arm of which is connected to a suspended irrigating container and the lower to a glass subaqueous drainage tube in a large collecting bottle placed below the level of the bed.

The saline is allowed to drain out of the pleural cavity and in eight hours irrigations are begun. Irrigating fluid is allowed to flow until patient complains of tightness. The irrigation is then stopped and the fluid allowed to drain in the collecting bottle. This is repeated every two or three hours. After twenty-four hours the irrigating container is replaced by a mercury manometer and a suction-syphon apparatus is connected to the collecting bottle. This creates a negative pressure which should be about minus ten millimeters of mercury at the end of normal inspiration. This is continued for about a week and if the temperature is normal, the lung expanded, and there is only a small amount of retained fluid, the tube is removed and a strip of rubber tissue is inserted.

In streptococcal empyemas closed intercostal drainage will often suffice. Slow subaqueous drainage followed by irrigation and negative pressure aspiration is usually carried out. In the later stages rib resection as outlined above may be necessary.

UROLOGY

By TOM R. BARRY, M.D., F.A.C.S.
By G. A. WILLIAMSON, JR., M.D.
Medical Building, Knoxville

Physiological Bladder Changes During Pregnancy and the Puerperium. S. R. Muellner, *Journal of Urology*, May, 1939.

Dilatation of the renal pelvis, dilatation and tortuosity of the ureters, and loss of ureteral tone occurring during pregnancy, has been demonstrated for years. However, no study of the changes occurring in the bladder has been made previous to this.

The cystometric studies of fifty women in varying stages of pregnancy form the basis of this report. Urinalyses were done to rule out infection, and the patients were checked for residual urine, after which the cystometric readings were made.

In the nonpregnant adult the bladder capacity varies from about 350 cubic centimeters to 450 cubic centimeters, with the first desire to void at about 250 cubic centimeters. Beginning with the third month of gestation, the bladder capacity slowly increases, reaching 1,300 cubic centimeters in the eighth month, at which stage the bladder shows evidence of atony. In the ninth month the bladder tone improves.

None of the patients had residual urine while pregnant, regardless of the diminished bladder tone. Five showed no bladder changes throughout pregnancy.

In the post partum period the bladder tone is less

than during the ninth month, the capacity reaching to 1,500 cubic centimeters. During this period, residual urines are common, varying from one to forty ounces, the largest being immediately after delivery. Progressive improvement in both tone and capacity take place, and in six to eight weeks after delivery, the bladder approaches normal and

the residual urine disappears. In a small percentage of cases the bladder changes persist.

The changes of the bladder during pregnancy closely parallels those of the pelvis and ureter.

As to the cause of these changes there is no agreement. Obstruction is not sufficient to explain the condition.

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EPILEPSY: DIAGNOSIS AND TREATMENT*

J. P. GILBERT, M.D., Nashville

THE HISTORY of epilepsy, like the beginnings of medicine, goes back to the dawn of civilization, and such an entity has always and ever will be the subject of voluminous writing and research until its secret has been disclosed. The early Greeks supposed that the insane and those who suffered from fits or hysterical seizures enjoyed visitations from the deities, or punishment by demons. No attempt is made in this paper to review the voluminous literature on epilepsy, or to detail the various types, but to mention briefly some of the theories of the neurological mechanisms, the factors involved in convulsions, and various conditions characterized by convulsive phenomena which might be confused with the diagnosis of idiopathic or essential epilepsy. Recent advances in the medical treatment will be reviewed.

Many authors think of epilepsy as a symptom rather than a disease or prefer to speak of "paroxysmal disorders" or of "the convulsive states." On the basis that *no cause can be found other than an inherent tendency to react with convulsions* patients so suffering are said to have "essential" or "idiopathic" epilepsy.

With the development of electroencephalography has come a new definition by Gibbs et al.¹ "Epilepsy is disordered functioning of the rate regulating mechanisms of the brain." Grand mal epilepsy is characterized

by extreme acceleration of the electrical activity of the cortex; psychomotor attacks, by extreme slowing of this activity, and petit mal by alternation of fast and slow activity."

Considering the neurological mechanisms of convulsions four theories have been advanced: the irritation, the release, the short circuit, and the explosive theory. According to Lennox and Cobb² "the latter is dependent, not upon the spread of nerve impulses, but upon some sudden metabolic change—such as anaphylaxis, anoxemia, or alkalosis. This theory has been accepted as the most plausible, and certainly has further established its importance in the convulsive therapy with Metrazol in schizophrenia and other psychoses. The seizures induced with camphor resemble in every detail those of true epilepsy, except that loss of sphincter control is rarely encountered.

Lennox and Gibbs in their electroencephalographic studies found a marked similarity in their tracings between the dysrhythmias during a grand mal seizure and the changes in respiratory movements occurring in asphyxia. They state that "when brain cells are injured, they may die, they remain sick, or they may recover entirely. If they die or recover, there is no epilepsy; but if they remain sick, there is epilepsy, or at least, the grounds in which epilepsy may develop. These investigators found no one portion of the brain from which the con-

*Read before the Tennessee State Medical Association, Jackson, April 11, 12, 13, 1939.

vulsions always started, but more frequently in the frontal area than in other regions. In some cases the activity seemed to start all over the cortex at once, suggesting an origin in a subcortical center.

There are three main factors involved in the production of seizures. They are (a) organic abnormalities in the structure of the brain and its coverings, (b) functional abnormalities in the cells of the brain that increase their convulsive reactivity, and (c) abnormalities of tissue outside the brain.

There has been no constant or specific lesion found in the brain to account for epilepsy. The most frequent microscopic lesions found are areas of sclerosis or degeneration in Ammons Horn. Gross lesions of the brain, found mostly in institutional cases, have not been proven to be the cause, but may be the result of seizures. This is explained on the basis that the majority of autopsy material came from institutions.

The second factor, the functional abnormalities, is the one that has been an enigma since epilepsy was first considered to have a definite cause other than a visitation of the deities or a curse of the demons. It will be a mystery until someone discovers the unknown "convulsive capacity"; or why it is that only about one-third of patients with brain tumor have seizures; or why only 4.5 per cent of 25,000 soldiers with wounds of the skull develop epilepsy; or why less than one-half of infants with cerebral birth palsies develop epilepsy.³

The theory of demon or god possession having been discarded many psychoanalysts claim an emotional possession, a flight into unconsciousness to escape unpleasant reality. Freud interprets the convulsion as a muscular sex orgasm. However, the emotional or psychogenic factor must not be overlooked as a precipitating factor in individuals predisposed with neuropathic taint. We speak of convulsive capacity, constitutional types, and epileptic character; but, after all, it has been truthfully said that it is never known who is an epileptic until the first seizure makes its appearance.

Of those factors which influence epileptic

seizures in tissues of the body other than the brain, the most important are the disturbances of acid-base equilibrium, oxygen supply, and water balance. Numerous investigations have been made of the various chemical constituents of the blood, the urine, and the spinal fluid of epileptics and have not been found to differ greatly from those of normal individuals. Seizures can be lessened by ingestion of acids or acid-forming salts; conversely they can be precipitated by ingestion of alkalis. Acidosis with reduction of seizures can be induced by means of a fat diet, by fasting, or by restriction of fluids.

Convulsions can also be controlled by high calcium diet, or precipitated by a diet low in calcium. The oxygen supply, poor or rich, the water balance, with dehydration or edema, will also influence convulsions. As to heredity, in spite of its practical importance, there is still quite a controversy. Burr⁴ in a study of 1,449 cases concludes that direct inheritance is not important but believes that convulsions may be an evidence of congenital instability of the germ cell; in other words, an inherited predisposition as in other neurological conditions.

DIAGNOSIS

The diagnosis of epilepsy, as in other conditions, has its beginning in a carefully taken history. Brain⁵ lists the following questions which are essential in every case: "When did the seizure first occur? Was it precipitated by an accident or associated with an acute illness? How soon was it followed by the second? What is the usual interval between attacks? Are they increasing in frequency? Has the patient ever had a series of attacks without recovering consciousness? Do the attacks occur at any special time of day? Do they occur only by day or only by night? In the case of a woman, are they related to the menstrual periods? Is any factor known to precipitate attacks? Does the patient have any warning? If so, what, and how long does it precede the attack? How does an attack begin? Is its onset local or general, gradual or sudden? Is consciousness lost?

Do convulsive movements occur in the attack? If so, are they symmetrical or asymmetrical? Has the patient injured himself in an attack? Does he bite his tongue and pass urine? How long do the attacks last? What is his condition afterwards? Are the attacks followed by headaches, sleepiness, paralysis, or mental disturbances? What treatment has he had and how has he responded? Has he at any time suffered from a head injury? If the attacks did not begin in infancy, did he suffer from infantile convulsions? Is there a family history of epilepsy or of fainting fits?"

Many physicians are prone to make a diagnosis of epilepsy after a few questions as to the nature of the seizures, or after the observation of one attack. Such procedure is inexcusable in the light of our present knowledge of conditions that have as their predominating symptom convulsive attacks. A thorough physical examination is indicated in every case, including a detailed neurological examination; blood Wassermann; spinal fluid examination; encephalography, or ventriculography if neurological abnormalities are found such as evidence of increased intracranial pressure. X-ray of the skull is indicated in all cases with history of head injury whether or not abnormalities are found.

Allan⁶ gives a comprehensive differential table for the diagnosis of epilepsy:

I. Conditions causing symptoms resembling epilepsy:

A. Disorders of

1. Circulatory system
 - Heart block
 - Paroxysmal tachycardia
 - Hypersensitive carotid sinus reflex
 - Postural hypotension
2. Blood
 - Polycythemia vera
3. Kidneys
 - Uremic convulsions, uremic tetany
4. Pancreas
 - Hyperinsulinism
5. Liver
 - Hepatic hypoglycemia

6. Parathyroids

Tetany

7. Labyrinth

Meniere's syndrome

B. Functional nervous disorders, including hysterical hyperpnea resulting in tetany

II. Symptomatic epilepsy

Secondary to lesions of the brain resulting from cerebral arteriosclerosis
Trauma, including birth injuries

Syphilis

Encephalitis

Degenerative lesions of the brain

Brain tumor

Brain abscess

III. Idiopathic epilepsy without evidence of organic lesion.

Any condition affecting cerebral circulation may cause attacks resembling epileptic seizures. It is now well established that the cerebral vessels are under vasomotor control and it is generally conceded that heretofore considered cases of typical epileptic seizures occurring during the senile period are due to vascular spasm. Hughings Jackson⁷ first discussed this theory in 1863. The attacks of syncope due to heart block or the so-called Stokes-Adams Syndrome should offer no diagnostic difficulty if a careful heart examination is made with electrocardiographic reading. Barnes⁸ in 1926 reported observations on the cerebral symptoms of paroxysmal tachycardia in fifteen cases. Convulsions rarely occur in this condition as observed by Smith,⁹ Perro,¹⁰ and Sutherland.¹¹

Weiss and Baker¹² in 1933 called attention to fainting and convulsions due to a hypersensitive carotid sinus reflex, a plexus of sympathetic and vagal connections lying over the bifurcation of the carotid artery. This condition is demonstrated by a simple test of pressure over one or both sinuses in the neck reproducing the type of seizure complained of by the patient. The most recent reference to this condition is by Robinson.¹³

The introduction of insulin has brought to light the syndrome of hypoglycemia in the production of convulsive seizures. Har-

ris¹⁴ calls attention to this as seen in over-treated cases of diabetes and in the entity of hyperinsulinism. He also considers it not only as an entity but as a precipitating cause of frequent convulsions in idiopathic epilepsy. The plotting of a glucose tolerance curve including six-hour specimens establishes or disproves the condition. Hyperinsulinism occurs spontaneously and as a result of adenoma of the Isles of Langerhans. Hypoglycemia is also seen in conditions with extensive damage to the liver.

Postural or orthostatic hypotension as defined by Chew, et al.,¹⁵ is a condition in which there is a sudden drop of forty to fifty millimeters in blood pressure from the reclining to the standing position producing dizziness, fainting, and convulsions. It is thought to be due to a loss of orthostatic vasoconstriction necessary to maintain normal blood pressure against the force of gravity, a disturbance fundamentally in the peripheral sympathetic nervous system. Accompanying the condition there may be hypohidrosis or anhidrosis; polyuria while in the reclining position; evidences of abnormalities in the central nervous system, and accentuation of symptoms in hot weather.

Careful examination of the hemoglobin of the blood, and red cell counts easily rule out polycythemia vera as a cause of seizures. Uremic convulsions are as easily set aside. Tetany as a possible cause of seizures can be easily confirmed by demonstration of a low blood calcium. It is an occasional complication of thyroid surgery. Latent tetany is recognized by the signs Chvostek and Trousseau.

Organic disease of the brain offers the major diagnostic difficulty. Brain tumor should be suspected in all cases showing frequent and especially infrequent convulsions, and all diagnostic methods at our hand should be employed to rule out this condition, including encephalography, ventriculography, and electroencephalography if available. This cannot be stressed too much especially in young adults, beyond the age when idiopathic epilepsy usually makes

its appearance. Other organic lesions should be carefully excluded such as brain abscess, syphilis and encephalitis.

A carefully taken history will very often rule out such functional nervous disorders as hysteria, yet the diagnosis of epilepsy is often erroneously made in this condition, and conversely a true epileptic is occasionally mistreated for hysteria. It is well to remember that convulsions can occur as the result of overventilation in hysterical hyperpnea.

TREATMENT

Once the diagnosis of idiopathic or essential epilepsy is made, an early and definite plan of treatment or management should be instituted. This includes hygienic, both mental and physical, dietary, and sedation.

As to mental hygiene patients should, wherever possible, be taught to consider themselves not as disgraced but as useful citizens of the community. They should be protected from emotional strain and excitement. Commitment to an institution or to an epileptic colony should be the last resort.

Physical hygiene should be accomplished by proper work and exercise, rest, and sleep. In certain patients the correction of posture, the regulation of the bowels, and adjustment of the exercise-rest ratio, may greatly diminish the frequency of the attacks. Lennox states that "as a first defense against seizures, the patient needs assistance in securing a quiet mind in an abundantly healthy body."

Regarding diet in epilepsy Hippocrates writes as follows: "The conjurers, purifiers, mountebanks, and charlatans have instituted a mode of treatment enforcing abstinence from baths and many articles of food." Even modern clinicians forbid their patients to eat many forms of meat, vegetables, and fruits, on the basis that they are acid forming. This is readily seen to be erroneous when it has been shown that acidosis tends to inhibit seizures and alkalosis favors the convulsive state.

With the exception of a diet rich in fat and poor in carbohydrate, the ketogenic diet, which is used with some success in children

with frequent seizures, there is no requisite other than a well-balanced diet to meet, but not exceed, the caloric requirements. Adults do not respond to diets that tend to produce acidosis. There are also the dangers of early arteriosclerosis, kidney irritation, and weakening of bones due to inorganic base constituents.

Since the introduction of bromides seventy-five years ago, and of luminal or phenobarbital more recently, no other drug has shared their popularity or offered more comfort to the patient or the doctor.

Merritt and Putnam¹⁶ in a paper read at the meeting of the American Medical Association in 1938 presented their observations and conclusions on the use of sodium diphenyl hydantoinate in 200 cases of epilepsy which had not responded to other forms of therapy. "In 142 of these patients who have received the treatment for periods varying from two to eleven months, grand mal attacks were relieved in fifty-eight per cent; petit mal attacks were relieved in thirty-five per cent. There were no fatalities. A toxic dermatitis occurred in ten patients, nonthrombocytopenic purpura in one patient, and minor toxic reactions, tremors, ataxia, dizziness in approximately thirty-three per cent."

They conclude that it is a valuable addition to other methods of treatment, but suggest that it be used only in those cases that do not respond to less toxic drugs. Putnam¹⁷ reports by personal communication to the author an additional one hundred cases treated with equally good results.

The drug is marketed by Parke, Davis & Company under the trade name of Dilantin, and is dispensed in one-tenth gram (one and one-half grains) and three-one hundredths gram (one-half grain) capsules. The average dose is one capsule three times a day.

Cobb, et al.,¹⁸ in their experiments on vital dyes in epilepsy report two cases treated with neoprontosil with marked diminution in the number and severity of convulsions, with no harmful complications.

In the last analysis of the treatment of epilepsy the eclectic point of view is best,

or the choice of a little of all that is good. Of prime importance the earliest possible regime is indicated, before the habit of convulsions is formed; the selection of a sedative that is best suited to the patient, correction of faulty habits of elimination; a well-balanced diet to meet the caloric needs; some restriction of fluids; a good mental attitude, sleep, proper exercise, and rest at regular hours.

SUMMARY

A few of the important factors involved in convulsions have been discussed. The importance of detailed history, examination, and the use of laboratory facilities have been stressed, with discussion of differential diagnosis. Treatment has been discussed with reference to hygiene, mental and physical, diet, and sedation.

Since the writing of this paper Kimball¹⁹ of Cleveland reports similar results to Merritt and Putnam in the use of sodium diphenyl hydantoinate (Dilantin) in 159 cases of epilepsy in children. They found that fifty-seven per cent of the cases treated for two months or more showed varying degrees of hyperplasia of the gums associated with definite deficiency of vitamin C. They conclude that the condition seemed to be associated with the treatment with the drug.

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DISCUSSION

DR. FRANK H. LUTON (Nashville): Mr. Chairman and Members of the Society: I feel that we are indebted to Dr. Gilbert for a very sound paper on the topic of epilepsy, an illness that is as old as illness and one about which more misinformation has been written than any other disease. It is a widespread problem, although at present there are no reliable statistics on its incidence. Information is hard to obtain. It is hard to make an adequate survey of the problem because a good many people do not come to the doctor for the disease and a good many of these would not tell the surveyist if they did have it. It is estimated, however, that we have half a million idiopathic epileptics in this country, and about 40,000 of them are treated in special hospitals, in special epileptic colonies, and in the governmental institutions.

It is estimated that about eighty per cent—seventy-five to eighty per cent—of those epileptics are individuals who, in the interval between attacks, are useful and intelligent citizens. I am afraid that a good many of us are inclined to think of epileptics in terms of the patient who is

tedious and insistent upon getting some help and who really needs institutional care. We, therefore, allow ourselves to forget that there are eighty per cent who can be helped a great deal and in most instances can be relieved entirely of their attacks. I am sure that if we can carry out those sound measures that Dr. Gilbert talked about in his statements about treatment we can bring to that eighty per cent a happy and a useful life. I know of no patient that is more grateful, no family that is more grateful, than the patient or family who can be relieved of the attacks.

I want to mention one patient who is symbolic of that problem of the favorable epileptic. I saw a sixteen-year-old girl about twelve years ago and have followed her during this whole period. At that time she was in high school, was failing in her work, was very dull and slow. She was given an intelligence test and it was felt that she was retarded mentally, and that it would be very difficult for her to go and finish high school. She was investigated and all the possible causes of convulsions were ruled out.

She was treated with general hygienic measures, with luminal and a good deal of psychotherapy. She finished high school, four years in a well-known girls' school, then came to a library course in a well-known college, a course that was one of the most difficult ones in the school. For the past two years she has been a librarian in a large high school. She has been without attacks for a good many of these years and is now on a regime that does not include luminal.

Another problem: A twelve-year-old boy that I have followed for four years, at first appeared very slow. An intelligence test revealed mental retardation, but he is now finishing high school and has not had convulsions for three years. He has had only small doses of bromide and luminal and is now on very small doses.

I have known college professors and medical students who have had convulsions and who have shown many evidences of the so-called epileptic personality, yet these individuals are able to go on and live happily.

It is extremely important that we pay attention also to the mental hygiene of the family. During the past year an epileptic was admitted to the academic department of our university and the first thing the faculty knew about his epilepsy was at the time he had a convulsion in one of the classes. If that family had been educated, if the attitude of the family were correct toward this patient's convulsions, the embarrassment of the convulsion in the class might have been saved the patient and he might have had the beginnings of adequate treatment, or treatment might have been carried along with his college course.

Let me say, in addition to Dr. Gilbert's paper, something about the need for research. There has been within the last few years a very definite advance in the methods for investigation of epilepsy.

With the discovery of the usefulness of the electroencephalogram in finding out the mysteries of what goes on behind the face we have an extremely valuable method. At the present time there is being spent just a little over \$15,000 a year on research in this field which is costing us \$18,000,000 a year for those institutional patients, and we need to pay much more attention to the study of the causes of such a problem.

Thank you very much.

DR. JESSE C. HILL (Knoxville): Mr. President and Members of the Tennessee State Medical Association: I think Dr. Gilbert has given us the sanest paper on epilepsy that I have ever had the opportunity to hear. In the first place, he emphasizes the diagnosis. That is very important, because there are so many cases of epilepsy that have a causative factor that are treated as idiopathic epilepsy.

Next, he emphasizes the diet and the right kind of habits. In conclusion, he states that we should give these patients a little bit of all that is good, which is very true.

Some twenty years ago I read a paper before the Tennessee State Medical Association on luminal in epilepsy. That was the treatment of Dr. Francis X. Dercum of the University of Pennsylvania, and I mentioned in the paper the use of luminal and bromides, and today I do not believe there has been a great deal of change. I believe luminal and bromides are a sheet anchor in the treatment. Even though the case may not be idiopathic, frequently in traumatic epilepsy or

epilepsy due to other things these two drugs will control the seizures or at least will diminish them.

I remember one case especially from Chattanooga, Dr. Ed Newell's patient, where a little girl's mother shot her through the head and several pieces of the bullet splintered into the brain and remained there. One would think there was no reason to give that child palliative treatment, but under the luminal and bromide treatment we were able to reduce the child's convulsions from seven or eight a day to two or three a week.

I enjoyed the Doctor's paper very much.

DR. J. P. GILBERT (closing): I just wish to say in closing that I had more in my paper about the electroencephalography and its importance in the diagnosis of epilepsy and other conditions of the brain, but time did not permit me to bring that out.

I wish to stress the importance of this new drug. I believe it offers a great deal for those patients who do not respond to the use of bromide or the barbiturates. I have not had a great many on this new drug. I have one case, that of a woman, fifty-two years of age, who has had idiopathic epilepsy since she was eight years of age, and her seizures have never been controlled with bromides or luminal. She was averaging one to two or sometimes three major convulsions a week, and at times would get into a series of almost status epilepticus at the time or her menstrual periods. I placed her on this drug Tuesday before Christmas and she has had a few petit mal attacks, but she has had only five grand mal seizures.

I appreciate the gentlemen's discussions.

APPENDICITIS IN CHILDREN*

WILLIS H. THOMPSON, M.D.
Postgraduate Instructor in Pediatrics

IN A CONSIDERATION of this subject it is important, because of the bearing it has on the treatment, to emphasize certain significant ways in which the disease in children differs from that in adults. Despite the commendable dissemination of information and warning to the public concerning the symptoms which should cause them to seek early medical aid for their children, recent reports from various sections of the country show the continued frequency with which extensions beyond the appendix are already present when the child is first seen by the physician. An important reason why these occur is that abdominal distress is so common in children from a variety of minor causes. These frequently are of short duration and parents develop a habit of expecting the symptoms to cease quickly and thus they delay in calling the physician. Keyes in reporting on appendicitis in children from Barnes Hospital, St. Louis, found that 50.3 per cent had extension of inflammation beyond the appendix when first observed. Finney in a large series reported 37.5 per cent complicated by extension. The physician in a small community will probably find a smaller percentage with extension than do hospital staffs dealing with a large indigent population, but still sufficiently frequent to be a constant source of anxiety. The frequent use of cathartics and anatomical peculiarities of the appendix and omentum of children are additional factors to more frequent rupture of the appendix.

The pathologic changes in the abdomen, after rupture of the appendix or extension beyond it, correspond in general with the clinical picture. With early and adequate localization fibrinous adhesions form between the suppurative or perforating appendix and the visceral peritoneum of the adjacent loops of bowel; the omentum, ex-

cept when underdeveloped, aids greatly in walling off the inflammatory process and an indurated mass becomes palpable in the right lower quadrant or pelvis of a patient only moderately ill. In the severe infections and especially where gangrenous rupture of the appendix has discharged a considerable quantity of virulent organisms into the peritoneal cavity before local reaction has had the opportunity to form a protective barrier, spreading peritonitis produces the clinical picture of severe toxemia. The abdomen has first a boardlike rigidity, the child perspires profusely and has a pinched anxious facies due to the agonizing pain. Later distention caused by the collection of gas and fluid in the paralyzed loops of small bowel brings with it continuous vomiting, the fever ascends rapidly, the pulse becomes rapid and thready and when untreated, death occurs on the fourth or fifth day.

The physician most frequently first sees the patient who has appendicitis in either (1) the early stage when the pain of the distended appendix before rupture is sufficient to cause the parents to seek relief for the child, or (2) after the lull attending rupture has been succeeded by the rising tide of pain produced by the spreading peritonitis. In the first group the symptoms begin usually within the preceding twelve hours with pain in the upper abdomen, nausea, vomiting once or twice, the gradual spread of the pain to the mid-abdomen with later localization in the right lower quadrant. The temperature when obtained at this stage is slight, usually between 100 and 101 degrees when taken by rectum. Examination of the abdomen when done gently and with warm hands, beginning the palpation on the left side and proceeding slowly to the suspected right lower quadrant will show absence of rigidity and muscle spasm except over the inflamed appendix. Spasm may be absent and leave only

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subjective point tenderness on deep palpation. A small mass may be felt indicating the formation of a protecting omental coat. The right lower quadrant may be free from tenderness and the tender point only discovered by the rectal examination which follows. The tender appendix may be found high on the right or even close to the liver margin on rare occasions. When the urine shows no abnormalities, the chest is clear and examination of the throat reveals no acute infection, the removal of the inflamed appendix gives results which generally prove satisfactory. All but one in 183 of these patients can be expected to recover.

It is the second large group, those in which the infection has extended beyond the appendix, that present the problem. As already indicated, this group constitutes between twenty-five and fifty per cent of all cases of appendicitis in children. This large group will include: (1) those in which the peritoneal reaction rather quickly confines the infection to localized peritonitis with or without abscess formation, and in these the prognosis is fairly good; (2) another group almost as large in which the peritonitis is not effectively localized early. The group with spreading peritonitis has a poor outlook. At the present time one out of four succumbs to the toxemia or complications.

The clinician, however, is confronted by the problem of determining the proper treatment in the early stage of peritonitis before there are any indications pointing toward either of these eventualities (local or general peritonitis). He sees the patient whose history includes the usual symptoms of the onset of appendicitis and is followed, either with or without a lull at the time of rupture, by symptoms and signs of increasing severity requiring immediate care, but which tell the physician nothing about the direction that the progressing peritonitis will pursue. It is for this stage of the disease that an endless variety of forms of management have been advocated, about which thousands of articles have been written. These may advise: immediate operation with or without drainage; operation

deferred, the principles of which were described by A. J. Ochsner in 1892; operation only for the purpose of drainage of the peritoneal cavity; or operation with insistence upon removing the focus feeding the peritonitis. All of these differing methods reflect the varying attitudes toward the importance of the natural forces of repair and also much confusion surrounding the question of when is the proper time to interfere with those forces or aid them by drainage or removal of the diseased appendix. The facts are, however, that in recent years, with all of these methods used in various parts of the country, the mortality when infection is confined to the appendix is anywhere from less than one per cent to five per cent; when extension beyond the appendix has occurred the mortality for the localized peritonitis and spreading peritonitis combined is between ten and fifteen per cent and for the spreading peritonitis group alone it is between twenty-seven and fifty per cent.

Since 1935 we have conducted a study at the University of Minnesota Hospital of appendicitis in children, in which all of those patients with extension of inflammation beyond the appendix were treated during the acute stage by means other than surgical intervention. This at once brings up the important question of the criteria used in deciding which of the patients with acute appendicitis had extension beyond the appendix. The cooperative efforts of the surgical and pediatric staffs have evolved the following criteria: (1) The abdominal signs of generalized peritoneal inflammation, that is, with tenderness, spasm, rigidity, and rebound tenderness on both right and left sides of the abdomen. (2) A rectal temperature of 102 degrees or above. The pulse is usually around 120 or above, corresponding to the temperature level. (3) In the absence of the above signs of active peritonitis the presence of a large mass in the abdomen usually found in the right lower quadrant or in the pelvis. This latter evidence of extra-appendiceal extension occurred when patients had been ill for an average of 6.3 days, compared with three days for the group with generalized find-

ings. Duration of the illness was not used as a basis for selection. The illness of the patients in the group was about equally divided between those above and those below the forty-eight-hour dividing line frequently used in deciding on operative interference.

There have been 241 children with appendicitis admitted to the hospital during this three-year period of study. Of these 131 had the signs of unruptured appendicitis and were operated on immediately with but one death. Of the remaining 110 who had signs of extra-appendiceal extension sixty-seven had signs of generalized involvement and forty-three (those with the longer duration) had localized their infection when first seen. Of the latter group (forty-three), large palpable masses were present on admission in thirty-two and in the remainder sufficient rigidity of the abdominal muscles was present to obscure an underlying mass, but the extent of the rigidity and their high fever and pulse indicated that the infection had spread beyond the appendix, but *did not* involve the entire peritoneal cavity.

The management of this entire group of 110 with varying stages of peritonitis naturally differed according to the individual indications. Excluding the well-localized infections, the great majority were acutely ill with a fever varying from 102 degrees to 105 degrees, gray, pinched facies, severe pain and distention of the abdomen, and with vomiting a distressing feature.

Treatment: Probably the chief factor in bringing about recovery of these patients is the nearly complete removal of fluid and gas in the distended paralytic or obstructed matted bowel loops. This relieves the pain accompanying the distention, stops the vomiting promptly, reduces the toxemia, and puts the inflamed bowel at rest so that activity no longer interferes with the walling off and healing process. In our experience the success with which this is accomplished depends largely upon the *skillful* use of the continuous gastroduodenal siphonage devised and instituted by Dr. Owen H. Wangenstein. Only partial success in passing the nasal tube through the pylorus and into the duodenum results in unsatisfactory re-

lief of symptoms and no progress in recovery. In this siphonage system the Levine duodenal tube, modified by being weighted at the tip to facilitate passage through the pylorus, is first passed through the nostril into the esophagus. The patient is allowed to swallow water to hasten the passage into the stomach. The patient is then turned on the right side and the tube is introduced further at the rate of two or three inches every two hours for the first twelve hours. The progress of the tube is checked when possible by obtaining an X-ray film of the abdomen. By this means any difficulty such as coiling of the tube in the stomach can be determined and remedied. One can also visualize the progress in the complete removal of gas from the ladderlike loops of distended bowel. As soon as the tube is passed into the stomach, suction is begun. Two bottles of two or three liter capacity, graduated by means of an adhesive strip attached to their surface and marked at appropriate levels, are used for providing suction. The one which is to be inverted is filled with water except for 400 cubic centimeters. The lower one which is to receive the siphoned intestinal fluid is empty except for 400 cubic centimeters of water. The upper one is fitted with a two-hole rubber stopper and glass tubes are inserted into the holes. One, a long one reaching nearly the length of the inverted suspended bottle, is connected by means of a second rubber tube four to five feet long to the nasal suction tube. The short glass tube of the upper bottle connected to the lower bottle by another rubber tube drains the removed fluid from the upper bottle as it accumulates. Between the nasal suction tube and the tube from the upper bottle a Y-tube is inserted. Its free branch is used to irrigate the nasal suction tube if this becomes clogged and is closed by a clamp on a short rubber tube when not in use. Clamps are also placed on both long rubber tubes to be clamped when the bottles are removed for emptying and when irrigating a clogged duodenal tube. The effective suction in siphoning is produced by the distance between the patient's abdomen and the fluid in the lower bottle. The

negative pressure is most satisfactory when this vertical distance is kept at two and one-half ($2\frac{1}{2}$) feet.

When roentgen films are not feasible, the effective removal of intestinal fluid and gas must be judged by frequent examination of the abdomen and the amount of fluid and gas siphoned into the bottles. Distention and pain should be relieved in the first few hours. The gas removed is measured in the upper bottle, the fluid in the lower. Water is allowed by mouth at all times in measured amounts. This will return immediately through the gastric siphonage. The Levine type must always be perforated sufficiently high for gastric as well as duodenal siphonage.

This siphonage of fluid would dehydrate the patient quickly if parenteral fluids were not given. Physiologic saline with five per cent glucose is given daily in sufficient amount to prevent dehydration as determined by the urine output. The amount required varies, but is usually ninety to 100 cubic centimeters per kilogram of body weight (forty-five to fifty cubic centimeters per pound). More may be required during the hot summer months. It is best given by slow continuous intravenous drip.

The additional supportive measures consist of hot stoops to the abdomen for the first few days, sedatives such as codeine and phenobarbital, and in severely toxic cases citrated blood is added to the intravenous drip. This may produce dramatic improvement in those patients with poor resistance to infection.

Response to treatment: This is noted within a few hours by cessation of vomiting and relief from pain. Within forty-eight hours usually a decline in the temperature and pulse begins which may be very prompt or, in the case of the severe generalized peritonitis, a period as long as ten days may be required for these to reach normal levels. Suction and parenteral fluids are always continued until the temperature is normal. The other characteristic findings are the gradual subsidence of abdominal rigidity, revealing most often an indefinite mass in the process of formation and whose mar-

gins become more distinct as progress in recovery continues. Abscess formation sufficiently large and fluctuant to require surgical drainage occurred in only ten out of the 110 patients. In two of these the abscess was in the pelvis and was drained through the rectum. The remaining 100 patients all had abdominal masses. Although they frequently were large during the first week or ten days, when declining temperature and a good general condition of the patient indicated resolution, these were allowed to go on to spontaneous resolution. All patients were kept in bed in the hospital for at least one week after their temperature became normal. Their further convalescence was continued *in bed* at home on a soft diet with mineral oil or petrolagar given to insure freedom from constipation. Many still had palpable masses on discharge. Unless, however, the size was decreasing or stationary and not large, they were not discharged until this stage was reached.

This study differed from most previous studies of appendiceal peritonitis, not only in the emphasis on complete and prolonged gastroduodenal siphonage, but also in the length of time between the acute stage of the disease and the ultimate appendectomy. The patients were examined at frequent intervals during the six weeks' period immediately following their initial hospitalization. If the mass had completely or almost completely disappeared by the end of that period, appendectomy was then performed. If not, the operation was deferred still longer. The average interval to date has been 8.8 weeks. Adhesions, a bound down appendix, at times separate segments of a ruptured appendix, and occasionally matted bowel and omental adhesions increased the difficulties of the subsequent appendectomies. No fecal fistulae developed following surgery. A small sterile residual abscess was rarely encountered.

In the group of 110 cases there were five deaths, a mortality of 4.5 per cent. These deaths occurred early in the stage of generalized, profusely purulent peritonitis, and were frequently complicated by bronchopneumonia. Most of these patients were

moribund on admission and failed to respond to supportive treatment. In one recovery was taking place as indicated by a declining fever until too vigorous palpation of his abscess caused rupture with quickly fatal results. This illustrates the need for gentleness in palpation of these abdominal masses.

It is hoped that this report may be of assistance to the physician in the management of appendicitis in children—first in selecting the criteria for determining extension of the infection beyond the appendix, and second, by offering him the details of a method of management which has greatly reduced the death rate in patients whose infection has extended beyond the appendix.

DISCUSSION

DR. JOHN M. LEE (Nashville): Mr. Chairman and Gentlemen of the State Medical Society: We are sorry Dr. Thompson did not have time to finish his discussion of the conservative treatment of appendicitis in children. The results have been interesting, and we hope in his closing remarks he will give you the benefit of their observations which I am sure will interest you.

I think we are particularly fortunate in having at this time an opportunity to review the question of pediatrics in general under the guidance of Dr. Thompson. The outline of the subjects that he expects to bring to the attention of the lay groups in your communities should stimulate those people to a renewed interest in preventive pediatrics and in bringing their children to you for the preventive services which you can render to those children as well as for the curative services.

Appendicitis in childhood is to all of us who see sick children a most interesting subject, and at times a vital one to the patient. The scarcity or infrequency of appendicitis in the first year or two has been rather striking to me. After about twenty years of practice limited to pediatrics I have seen

only four babies with this disease under two years of age in private work.

Striking, too, is the fact that of these four patients, three came to operation after the appendix had ruptured, and in one instance the abscess definitely walled off. The reason for the infrequency of appendicitis at this age is very well suggested by the difference in the anatomy of the appendix at this time of life. As you remember, it is conical in shape rather than cylindrical in its outline, thus facilitating the emptying of this viscus, and it has also been suggested that at this time of life the amount of lymphoid tissue is much less than at a later period, thus reducing the predisposition to infection.

Perhaps most of us have the greatest difficulty in arriving at the diagnosis of these cases. At least I have considerable difficulty. They have all the symptoms in some cases that adults have, and perhaps a few more. They cannot tell us about their symptoms, of course, and we have to find out. The frequency with which abdominal pain occurs in any acute illness in the baby or small child is most confusing. I was very glad to hear Dr. Thompson mention the pain we see in the abdomen of the child who has a respiratory infection, having encountered that repeatedly. It is perhaps one of the most frequent symptoms that occurs in those infections. Dr. Abt wrote at length on that subject and he stressed one point that has been of much aid to me in differentiating pain of respiratory infection from pain of appendicitis. He suggests that the pain in respiratory infection is greater than the tenderness, and that in appendicitis it is just the reverse.

As a rule, the thing which has been of greatest help to me has been the local physical findings. I think it is stated in one of the recent editions of Holt's textbook on pediatrics that it is very difficult to make out rigidity in the abdomen of a child under three years, if it is not impossible. That does not conform to my observation in the few cases I have seen. As a rule with patience, with warm hands and with gentleness, sooner or later, if you are not too hurried in your examination, you will be able to detect (at least I have been able to detect) a certain amount of muscle spasm over the area where the appendix should be.

POST MENOPAUSAL BLEEDING*

W. C. DIXON, M.D., F.A.C.S., Nashville

VAGINAL BLEEDING occurring after the menopause does not always receive the consideration it deserves.

The patient frequently attributes it to some strain or unusual exertion, and is prone to disregard it until it has been present for some time, or has recurred on several occasions.

It is a symptom that may be present in a number of conditions and always calls for a thorough examination to determine its source and cause.

The etiological factors can be conveniently grouped under four main heads, as follows:

First—Inflammation.

Second—Benign tumors.

Third—Malignant tumors.

Fourth—Functional or unexplained bleeding.

Cases in the first classification, namely, those due to inflammation may be subdivided into those due to

A—Senile vaginitis.

B—Prolapse and cervical erosion.

C—Endometritis.

D—Acute pelvic infection.

Senile vaginitis probably has an endocrine basis as its primary cause. However, after the epithelium is desquamated, infection generally occurs and contributes to the production of symptoms.

Curtis has pointed out that stricture of the cervix is fairly common in elderly women, due to shrinkage of the tissues increasing a previously existing lesion that was not marked enough to cause interference with drainage. This causes a retention of mucoid material which finally becomes infected. Slow leakage of this material into the vagina produces irritation of the vaginal mucosa, with the development of vaginitis.

Prolapse of the uterus, with or without
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cervical erosion may cause bleeding. In cases with erosion the bleeding is easily explained, coming as it does from the changed type of cell surrounding the external os. In some cases decubitus ulcers are formed by pressure on the extruded cervix.

Where there is no ulcer or erosion the bleeding is thought to be due to congestion incident to the abnormal position of the uterus.

Endometritis is a diagnosis that is now rarely made.

In senile atrophic uteri, curettage may obtain only a few small bits of tissue that gives the pathologist very little to work with, which may account for the rarity of this diagnosis. It seems reasonable to assume, however, that if vaginitis may be caused by the lack of an ovarian hormone that the same state of affairs might exist in the endometrium, which, during the woman's menstrual life shows more effect from such hormone than does the vagina. Benthin in a series of cases gives it as a common finding among benign causes of uterine bleeding after the menopause.

Acute pelvic inflammation, which is a fairly common cause of bleeding before the menopause, is rare afterwards.

Kanter and Klawans have made a detailed report of the causes of post menopausal bleeding in ninety-eight cases and Taylor and Millen have thus reported 406 cases.

The frequency of the various lesions in these 504 cases is of interest.

Cases caused by inflammatory lesions:

Senile vaginitis	14
Prolapse of the uterus with or without erosion	29
Erosion of the cervix	21
Endometritis	7
Acute salpingitis	2

The second group of cases consists of benign tumors as follows:

A—Cervical polyps.

B—Endometrial polyps.

*Read before the Tennessee State Medical Association, Jackson, April 11, 12, 13, 1939.

C—Fibroids.

D—Fibroids and ovarian tumor.

E—Ovarian tumor.

F—Urethral caruncle.

Cervical polyps frequently escape into the vagina and due to trauma and infection may be the source of considerable bleeding.

Endometrial polyps are not as prone to appear in the vagina, but they may be the cause of bleeding. It must be remembered that both types may undergo malignant changes and should always be submitted to microscopic examination.

Fibroid tumors of the uterus are a common cause of bleeding before the menopause. As a general rule following this event they atrophy due to an increase of the fibrous tissue at the expense of the muscle cells, and cease to be a cause of hemorrhage.

It is unfortunately true, that due to this decrease in size, and the absence of the symptoms usually associated with them during the woman's menstrual life, that fibroids are sometimes given scant consideration as a cause of symptoms following the menopause.

In recent years the opinion has gained ground that the bleeding associated with fibroids is due to disturbed ovarian function rather than to the mechanical effects of the tumor.

This ovarian influence is absent after the menopause, or is greatly modified so that bleeding at this time is of graver significance than before, because it is always due to some degenerative change occurring in the tumor.

Submucous tumors, due to their location, or those undergoing degenerative changes, can cause bleeding independent of ovarian influences.

A fact to be considered in all fibroids associated with bleeding after the menopause, is the increased frequency of cancer of the body of the uterus in such cases. In various series the incidence has been over fifty per cent.

Certain ovarian tumors, particularly granulosa cell tumors, produce uterine bleeding. This is easily explained, because the tumor cells secrete an estrogenic

hormone which accounts for the bleeding and the associated hyperplasia of the endometrium. However, in any large series of cases bleeding will be found to occur in association with benign ovarian tumors.

Whether this is due to mechanical factors such as congestion or pressure, or some as yet undiscovered effect of the tumor tissue on the endometrium, is not known.

While the occurrence of bleeding in the presence of an ovarian tumor does not necessarily mean that the tumor is a granulosa cell tumor, the best interests of the patient are served by assuming that the tumor is some form of malignancy, and by its removal. The number of cases in which benign ovarian tumors are responsible for this symptom is so small as to be negligible.

Urethral caruncle is fairly common in elderly women. Three types have been described: papillary angiomas, true polyps, and those composed of a small mass of granulation tissue springing from the urethral wall. Occasionally, as a result of irritation from clothing or intense congestion, they will bleed.

Recently a patient was seen who had been advised to have a panhysterectomy because of post menopausal bleeding. Examination disclosed a caruncle that bled easily. It was removed, and she was curetted, only a small amount of tissue being obtained, which did not show the presence of malignancy.

The bleeding stopped and the patient has remained well.

The occurrence of these lesions in the 504 cases referred to above was as follows:

BENIGN TUMORS

Fibroids	35
Fibroid and ovarian tumor.....	8
Ovarian tumor	3
Cervical polyps	23
Endometrial polyps	9
Urethral caruncle	6

Malignant tumors account for the largest and most important group of cases of post menopausal bleeding. It has been said that every woman who bleeds after the menopause should be considered to have cancer until it can be proved to the contrary, and

that the burden of proof rests on the physician caring for the patient.

This is no doubt true, and if all such cases were considered in this light many lives would be saved. It is easy to explain the bleeding in cancer of the cervix, uterus, vagina and vulva, and in the malignant granulosa cell tumors of the ovary. Why bleeding should occur in other types of ovarian malignancy is not clear. The following case is illustrative:

Mrs. E., 64, Para 8.

She passed the menopause twenty-two years ago. Two weeks before she began to pass dark stringy blood by the vagina. For the past two days the blood has been bright red.

The cervix was normal in appearance, the uterus not enlarged, and no pelvic mass could be made out. She was curetted, a large amount of material being obtained.

This was reported as typical hyperplasia.

A small granulosa cell tumor was considered as a cause of the bleeding but operation was delayed. She was advised to return for operation if bleeding recurred. She bled one time for a few days, the bleeding then stopped and did not recur. Six months later she came back with ascites, and a mass in the left side of her abdomen.

At operation a large amount of fluid was evacuated, and a large tumor of the left ovary, with metastasis to the right ovary and pelvic peritoneum was found. Both ovaries were removed and the tumor was found to be adenocarcinoma.

This case illustrates that malignant ovarian tumors other than granulosa cell growths may be associated with bleeding and hyperplasia of the endometrium. Mechanical factors might account for the bleeding, but could hardly explain the changes in the endometrium.

The incidence of malignant lesions as a cause of post menopausal bleeding in the series of 504 cases referred to, is as follows:

Cancer of the cervix.....	176
Cancer of the body of the uterus.....	112
Cancer of the vagina.....	10
Cancer of the vulva.....	9
Cancer of the ovaries.....	9

Granulosa cell tumors.....	5
Myosarcoma of the uterus.....	5

Considering all age groups the relative frequency of cancer of the cervix as compared to fundal cancer is about four to one.

After the menopause, the incidence of cancer of the body increases, until it closely parallels cervical cancer.

In any large series there are always some cases in which ovarian tumors cannot be found, in which no malignant lesion of the uterus, cervix or vagina is present, and in which the uteri are apparently normal.

These always cause the greatest concern because of the fear that something has been overlooked.

Hypertension has been suggested as a possible cause of such bleeding. Hypertension is a common finding in the age group under consideration. If it had a causal relationship to the bleeding, it would seem that the symptom would be very much more common than it is.

A local lesion of the blood vessels in the endometrium has been considered as a cause for this type of bleeding.

To assume that either of these conditions is the cause of bleeding, carries with it the danger of overlooking a more serious cause.

It is difficult to explain hyperplasia after the menopause in the absence of granulosa cell tumor, since ovarian function declines at this time. Frank and others, however, have demonstrated estrogenic hormone in the urine years after the menopause.

There is some experimental work going to show that the anterior pituitary hormone is capable of producing hyperplasia and uterine bleeding in castrated animals. This finding may be of value in explaining some of these cases.

Taylor and Novak and Yui have reported finding hyperplasia near carcinomatous areas in the endometrium. They both seem convinced that hyperplasia is definitely a precancerous lesion. Novak emphasizes that this relationship is more marked in hyperplasia occurring after the menopause.

To quote him, "In some cases one can trace the transition by definite gradations from benign hyperplasia to a proliferative

borderline stage, merging almost insensibly into out-and-out cancer. It is, therefore, in these cases of post menopausal hyperplasia rather than in those far more commonly seen in the reproductive epoch, that some sort of relationship to cancer seems clearly established."

Two cases of post menopausal bleeding have been observed, who were curetted for diagnostic purposes. In both instances a large amount of tissue was obtained, and radium was introduced into the uterus.

The pathological report in both cases was benign hyperplasia. Since neither had an ovarian tumor, and no other cause for the bleeding was found, they were kept under observation.

A year later one of them returned with carcinoma of the body of the uterus, and four years later the other returned with the same condition. The patient operated on within a year might conceivably have had cancer at the first operation which escaped the pathologist. The one who was operated on four years later could have developed malignancy on the basis of hyperplasia.

Certainly any patient who has post menopausal hyperplasia, in the absence of an ovarian tumor should be closely followed.

In the two series of cases referred to, the incidence of bleeding which could not be satisfactorily explained was:

Functional bleeding	13
No discoverable cause	7

No mention has been made of the amount of bleeding associated with any of these lesions, because this in itself cannot be diagnostic, and should not influence us in our investigation. Whether the bleeding is continuous or only a spotting, or whether it is large or small in quantity, should not be considered as a basis for the need for examination.

The following large series of cases of post menopausal bleeding have been reported in recent literature:

Pemberton and Lockwood	596 cases
Keene and Dunne	782 cases
C. C. Norris	189 cases
Taylor and Millen	406 cases

The total number of these cases 1,973

Of these some form of pelvic malignancy caused the bleeding in 1,122 cases. Some benign cause was present in 851 cases.

On a percentage basis, this shows pelvic malignancy to be the cause of post menopausal bleeding in approximately fifty-six per cent of cases and some benign cause to be present in forty-four per cent.

These statistics support the viewpoint that some form of pelvic malignancy should always be our first thought in a patient who bleeds after the menopause. A respectable minority of such cases, however, is due to benign causes.

Every patient presenting this symptom deserves careful study to determine the source and cause of the bleeding. This may require biopsy of the cervix, curettage and examination under anesthesia to determine the presence or absence of ovarian pathology.

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DISCUSSION

DR. P. C. SCHREIER (Memphis): Dr. Dixon was kind enough to furnish me with a copy of his paper, which I thoroughly enjoyed reading, and I have enjoyed even more hearing the paper. He has presented us with an outline of what we should consider as the possibilities when confronted with a patient who has post menopausal bleeding. I have no doubt that if every one of us had such a table before us as we examine the patient and check each item as if we were taking an inventory, we would not overlook very many serious conditions explaining this post menopausal symptom.

I do not think brilliant diagnoses depend upon brilliancy. They depend upon doing a thing in a very routine and methodical fashion and it certainly applies in the diagnosis of this serious symptom.

I would add to the symptom of post menopausal bleeding also menopausal bleeding. One is sometimes uncertain as to whether we are dealing with an abnormal type of bleeding at the menopause

and whether the patient is ever going to have a cessation of bleeding by which we would diagnose the menopause. In other words, given a case to decide upon whether the woman is now entering the menopause or not, you know it is very difficult. Therefore, abnormal uterine hemorrhage at the age of which we expect the menopause is just as significant and important to explain as if the woman says, "I haven't menstruated for a year, but I started bleeding the other day."

Another symptom is leukorrheal discharge at the menopausal age that the woman has not heretofore had. It is just as significant as if she came in saying she was bleeding. In our cancer clinic at the John Gaston Hospital it is not infrequent that the patient will say, "I am not bleeding any, but I have a bad discharge." On examination the discharge may be a little blood tinged, but they hadn't recognized it; so the appearance of a discharge at this age that the woman has not recognized before is of significance.

Dr. Dixon found that approximately fifty per cent of the women who have post menopausal bleeding have malignancy. In other words, out of every two women who present themselves bleeding when they think they should not be bleeding, after they have gone through the change of life, one will have a cancer. If the one you examine today doesn't have cancer you can almost bet that the one who comes in tomorrow will have, if you want to boil it down to hard-boiled facts.

As to the question of functional bleeding at the menopause, Dr. Dixon opened his paper very appropriately by saying that the enthusiasm over our knowledge regarding the physiology of menstruation has led us to try to explain abnormal bleeding at the time of the menopause on disturbed physiology, or functional bleeding. One should be very careful about attributing post menopausal bleeding to functional disturbance, and only after every one of the tests that you can employ, only after a thorough palpatory and inspection examination under good light, during which time you have not observed any organic lesion or felt any organic lesion, you have a right to assume that it might be functional, but even then you haven't the right to diagnose it until a thorough curetting and possibly a suspicious cervix.

This leads me to open the question about making pathological examination of these studies more available to the general profession. I have heard many papers given on the early diagnosis of cancer of the cervix. Why do the patients come to the doctor so late, referred to the specialists when they are no longer curable? I believe there is one big factor involved there. The doctor out in the field does not have a laboratory available to which he can send a biopsy and get a report. The question of biopsy is almost a bugaboo to him, whereas the question of cervical biopsy is as simple as opening a boil, and any doctor who has enough energy and curiosity to open a boil could take a cervical biopsy.

But has he a laboratory to which he can send the biopsy as easily as he can send his Wassermann?

I think the day is coming and must come when the general practitioner, or the general doctor in any field, can take a biopsy in his office from the cervix, put it in a bottle and send it to the laboratory just as simple as he does with the Wassermann and get a report.

Thank you very much.

DR. E. DUNBAR NEWELL (Chattanooga): Dr. Dixon has given us a paper today that should be of intense interest to every doctor in this room and to every doctor in the state of Tennessee. It should be of interest to us personally because it may be our wife or our mother or it may be our sweetheart that has symptoms of post menopausal bleeding. It should be the interest of us especially because we are doctors. We are not doing our duty as doctors if we do not adequately and properly diagnose these cases early.

Last night we heard a wonderful address by the president-elect of the American Medical Association, and in that address (I approved of it most heartily) he had no apologies to make for the American Medical Association, he had no appeasements to offer for the conduct of the American Medical Association, and we do not want to apologize, as members of the medical profession, or have any appeasements to make to the laity when we treat our cases. We must so conduct ourselves in handling these cases that the laity will recognize that our record is clear. But unless we listen attentively to what Dr. Dixon and the other men have said about the proper diagnosis of these cases our records will not be clear.

There is no excuse for any man in medicine today not to properly diagnose a number of these cases when they come to him. The most significant thing Dr. Dixon said was that in a report of nearly 2,000 cases of post menopausal bleeding, fifty-six per cent were malignant. That means that if one out of two cases comes to your office you probably can, by making a careful examination, make the diagnosis.

But it has been brought out by Dr. Schreier, of Memphis, that in those cases where we cannot positively see the bleeding we must make a most careful biopsy or diagnostic curettage.

To do that properly, in my opinion, the patient should be put to sleep. The curettage, together with the blood which you get with the curettement, must be put in a bottle containing ten per cent formaldehyde and sent, not to a technician, but, to a well qualified pathologist to make the examination. No ordinary technician can properly make the diagnosis in many of these cases. It must be a well qualified pathologist, because, at times even with the well qualified pathologist, it is difficult to make a diagnosis of cancer of the body of the uterus.

Also, those cases of hyperplasia. Hyperplasia

following the menopause is quite a different condition from hyperplasia before the menopause. We must consider every case of hyperplasia as a potential malignancy, and in every case we must have it properly examined, and if the report is returned as not malignant, we must think immediately of granulosis or tumor of the ovary. That is the most important pathology present in cases where the hyperplastic tissue is not malignant.

It isn't necessary to go into all the details. I certainly am going to keep this manual on the diagnostic table, and in my mind, so that I can follow all the details he suggested, and if we will all follow all the details Dr. Dixon suggested, we will keep our record clear and we will not have to apologize to the laity or to anybody else, because we will make these diagnoses early.

DR. H. M. TIGERT (Nashville): Dr. Dixon has discussed one of the most important symptoms confronting doctors.

I think it is well to define post menopausal bleeding. When a woman reaches the age at which the menopause might reasonably be expected, and there has been a cessation of menstrual flow for a period of six months or more, associated with such symptoms as vascular and gastrointestinal changes, we may assume she has passed the menopause. If bleeding then occurs, it is of grave significance.

The figures presented by Dr. Dixon indicate that almost one-half of the cases of post menopausal bleeding are due to cancer.

He has very nicely demonstrated the cases of uterine bleeding, both menopausal and post menopausal. The most serious cases are the neoplasms of the cervix, uterus, and adnexa. A large number of these neoplasms are malignant and are responsible for the high mortality. Nonmalignant neoplasms, while important, are not so vital. Prior to the menopause cancer of the fundus of the uterus is not as frequent as cancer of the cervix. Cancer of the cervix occurs four to eight times as often as cancer of the fundus. Cancer of the fundus metastasizes more slowly than cancer of the cervix and, therefore, affords a better prognosis when diagnosed early. Following the menopause cancer occurs with equal frequency in the fundus and the cervix.

Fibroid tumors do not develop cancer. They do sometimes undergo sarcomatous change, which is variously estimated from one to five per cent.

Many doctors are dismayed by post menopausal hemorrhage because of a lack of knowledge of the basic causes. Dr. Dixon has pointed out that many neoplastic conditions are easily diagnosed by simple examinations, and that only special diagnostic procedures are required when the condition is so early or so hidden that ordinary examinations will not reveal it.

I do not advocate diagnosis except after a careful physical examination supplemented by special measures, if necessary, but I do want to say, that in the majority of cases the history and the physical

examination are so suggestive that very little doubt is left.

I am not so optimistic as some with respect to diagnostic curettage. Not infrequently when endometrial biopsies are submitted to competent men, the diagnosis is still quite uncertain. I think it is well in some cases, when the laboratory findings are uncertain, to follow the clinical indications, and perform a radical operation or use radium, as indicated.

There are a number of methods of treating uterine malignancy. Generally speaking, I think most surgeons lean to panhysterectomy for fundal carcinoma, and to radium for cervical carcinoma.

We have been taught that fibroid tumors are not likely to give rise to symptoms beyond the menopause. Dr. Dixon has shown that this is an error. Sometimes they undergo certain degenerative changes. No case of fibroid should be treated at any time, when there is a possibility of associated endometrial carcinoma, without diagnostic curettage. Fibroid tumors should not be treated by deep ray therapy until endometrial carcinoma is definitely excluded.

DR. W. C. DIXON (closing): Mr. President, I would like to thank the gentlemen for their discussions. I am glad that they brought out some of the points that I did not have time to touch on.

I was particularly glad that Dr. Schreier mentioned the ease and simplicity of biopsy. There are available on the market various instruments by which bits of the cervix can be taken out in your office without pain in the woman, without any operative procedure. Probably occasionally you can get an endometrial specimen with a small curette, but there is no reason on earth why any man here shouldn't do a cervical biopsy, because it is simple, easy, painless. The cervix is a peculiarly insensitive organ.

The question of post menopausal hyperplasia was the thing that got me interested in this. I had two or three women that came to me showing typical hyperplasia without cervical carcinoma, without carcinoma of the body. One of them was back in a year with a carcinoma of the fundus, and the other was back in four years with carcinoma of the uterus. So I am inclined to think, from my own little experience, that post menopausal hyperplasia is certainly a very scary type of lesion.

I purposely did not mention in the paper anything about the amount of bleeding, because I do not think that that can in itself be diagnostic, and I do not care whether the bleeding is slight or great, or continuous or intermittent, it should not influence us the slightest in going into a thorough examination. If you say to the patient, "You are not bleeding much; if it bleeds any more, come back," you have lost a golden opportunity. Any woman who bleeds from the vagina after the menopause deserves a thorough examination, if necessary, biopsy of the cervix, and curetting to exclude cancer of the fundus.

AN ANALYSIS OF SEVENTY-FIVE CONSECUTIVE CASES ADMITTED FOR VENEREAL DISEASES

EARL C. LOWRY, B.Sc., M.D., Medical Field Service School, Carlisle, Pennsylvania

INTRODUCTION

HAVING encountered and observed many difficulties in treating venereal patients as out-patients, in private practice I have been impressed by the prolonged period often necessary to render these patients symptom free and noncontagious. A very large per cent of venereal cases so treated develop complications, especially those having gonorrhea and chancroid, and one is inclined to attribute this to failure on the part of the patient to cooperate, that is, intermittent treatment, continuing to work, and continued dissipation because of the secretiveness of the diseases. Venereal diseases are usually contracted at the most ill-opportune times, and patients often ask if the time required to render them noncontagious may be reduced by devoting all of their time to treatment. The opportunity presented itself to make some observations on patients who could devote all of their time, during the contagious period, to treatment, and those observations are presented below.

In private practice it is customary to tell patients with acute gonorrhea they may hope to be well in six weeks more or less. I have observed that it is almost always more and usually twice the above figure. Many patients continue treatment for six or twelve months, and I saw one patient who had followed his treatment religiously for three years. In private work primary chancres are usually cured in ten to twenty-one days after the diagnosis is made, confirmation of the diagnosis often of necessity delayed. Chancroids are more stubborn, often prolonged, thirty-five days being an average time required to effect a cure. Many figures are available, some shorter, some longer than the above, but in general, I believe, they are acceptable for out-patients.

In the military service venereal patients are admitted to the hospital, where 100 per

cent of their time is devoted to treatment. Cases of gonorrhea and chancroid remain in the hospital until cured, and cases of syphilis remain until all lesions have healed and they have been rendered noncontagious. The latter are then discharged to the out-patient department, where treatment is continued. Since venereal patients in the military service are available all the time, and must comply strictly and promptly with all orders, they afford an excellent opportunity to see what can be done to effect a rapid cure.

GENERAL CONSIDERATIONS

The writer had charge of the genitourinary service at the station hospital, Fort McClellan, Alabama, for the past few months. The hospital mentioned is the permanent hospitalization point for venereal cases from the regular army personnel of Fort McClellan and District "D" CCC personnel. This includes for the period observed an average strength of 1,180 men and 6,924 men, respectively. All cases admitted for venereal disease during a four-month period, August 15, 1937, to December 15, 1937, were observed, which includes seventy-five consecutive cases. The fort and district are served by some thirty-four doctors, and all venereal cases are sent directly to the hospital as soon as they appear. Since the physicians sending in the cases are not skilled urologists and have not the facilities in the field for confirming the diagnoses, the cases correspond, from a diagnostic viewpoint, to what one sees in private practice.

An analysis of the seventy-five consecutive admissions shows the cases to be distributed as follows: Six, or eight per cent, were found not to have a venereal disease. Thirty-four, or 45.3 per cent, had acute gonorrhea. Twenty-four, or thirty-two per cent, had syphilis. Nine, or twelve per cent, had chancroid. Two cases, or 2.7 per

cent, had acute gonorrhea and primary syphilis.

Examination of a graph showing the venereal admission rate for the past two years shows the rate for the four months observed to be about average or perhaps lower. Of the sixty-nine venereal cases, twenty-four were soldiers and forty-five were CCC members. This would make a venereal rate per annum for the soldiers of sixty-one cases per thousand men and for the CCC nineteen cases per thousand men. Of the forty-five cases admitted from the CCC, fifteen were white and thirty colored, or a ratio of one to two, respectively. The membership ratio in District "D" is five to one white and colored, respectively. Of the thirty colored cases admitted, seventeen, or 56.6 per cent, had syphilis, and the remainder had gonorrhea, none having chancroid.

Seven of the forty-five CCC cases had taken a prophylaxis within three hours after exposure. Five of these developed gonorrhea and two syphilis. No figures are available on the total number of prophylaxes given in the CCC for the period observed. There is often long delay in getting prophylaxes by the CCC members as the place of exposure is usually at a long distance from camp.

Eleven of the twenty-four soldiers found to have a venereal disease had taken the regular army venereal prophylaxis within two hours following exposure, the average time elapsing being about fifty minutes. Of these eleven men, six developed acute gonorrhea, four developed chancroid, and one developed syphilis. It is noted that forty-six per cent of the soldiers contracting a venereal disease had not taken a prophylaxis. During the period covered by the report, 494 prophylaxes were given, and eleven, or 2.2 per cent, contracted a venereal disease. Assuming that all men were exposed, and they probably were, the prophylactic station has an efficiency of 97.8 per cent in preventing venereal disease. Thus, if the thirteen men who failed to take a prophylaxis had taken one, the total number of venereal cases would have been reduced among the soldiers from twenty-four to twelve, or fifty per cent.

The lower venereal rate in the CCC is exactly what one would expect. It is a younger group, more isolated, under close supervision and with less leisure time to spend away from camp. Also, they have less money to spend, which is an important item. In the CCC the penalty is greater, that is, certain discharge from the service, whereas the soldier loses time and pay for the period of disability and, if he failed to take a prophylaxis, usually a short term of imprisonment.

PRESENTATION OF CASES

In the treatment of these cases no new or original methods were used. The observations are to show the progress of patients treated by the old, standard, simple methods when the patients are confined to a hospital ward, and where failure of patients to cooperate may be ruled out as a factor in failure to respond to treatment.

NONVENEREAL CASES

The reasons for describing these cases in detail are three. First, all of them were diagnosed clinically by physicians as venereal diseases. Second, they illustrate the type of case which may be mistaken for venereal disease. Third, to show the frequency with which a mistaken diagnosis is made if clinical findings alone are used.

1. A strong, husky, eighteen-year-old CCC enrollee completely severed the frenulum during masturbation. When detected on routine physical inspection, he had a large, dirty ulcer and early inguinal adenitis. The adenitis subsided promptly and the ulcer was healed in eight days. All dark field examinations, smears for Durey's bacilli, and follow-up Wassermann and Kahn tests were negative.

2. The second was a case of inguinal adenitis, severe, unilateral, secondary to a small leg ulcer, the latter being obscure. On admission, he had a large, firm mass in the left inguinal region, and the diagnosis on the transfer card was lymphogranuloma inguinale. The lesion suppurated, and the ordinary pyogenic organisms were demonstrated in the pus. The Frei-Hoffman test was negative, and follow-up Wassermann and Kahn tests were negative.

3. A nineteen-year-old CCC enrollee was admitted because of a profuse, whitish, mucoid, urethral discharge. Motile sperm were found in the discharge, but no gonococci. There was no clinical evidence of inflammation. He stated he had suffered from the malady for one and one-half years, and this was the fourth time he had been picked up at a physical inspection for having a urethral discharge. In spite of the many things we did for him, he was still manufacturing sperm when last seen.

4. A twenty-two-year-old soldier was admitted with multiple, painful, superficial vesicles on the glans. The following day the vesicles were dry, and three days later he was able to leave the hospital. A diagnosis of herpes was made, and time and tests proved he did not have a venereal disease.

5. A twenty-year-old CCC enrollee was exposed, became frightened, and after three days of milking his penis found a discharge. He went to a local physician who, without taking a smear, gave him some potassium permanganate crystals with instructions to dissolve them in water and inject the resulting fluid into the urethra. The patient, thinking the stronger he made it the more effective it would be, used a saturated solution. We treated him for a severe cystitis as well as an anterior and posterior urethritis. No gonococci were ever demonstrable in this patient, and he promptly recovered.

6. The sixth case was an eighteen-year-old CCC enrollee who loaded some poles on a truck, picking up the poles from among poison ivy plants. He wore gloves to protect his hands and rubbed them all over his penis while emptying his bladder. Being unfortunate in having an already too long prepuce, the toxicodendrol increased the size of his penis by four times, and the resulting contraption resembled an elephant's snout. On treatment, the condition subsided rapidly. The patient was sent in with a diagnosis of syphilis and phimosis, the latter secondary to the former, but syphilis was not found.

GONORRHEA—THIRTY-FOUR CASES

Thirty-four cases of gonorrhea were ob-

served and treated. The average age was twenty-two years, the oldest thirty-eight years and the youngest eighteen years of age. The average incubation period was 5.6 days, the longest fourteen days, the shortest two days. The average time spent in the hospital was twenty-five days, the longest being forty-eight days, the shortest fourteen days. Twenty-one were white and fourteen were colored. Five had complications as follows: one had phimosis and balanitis requiring dorsal slit operation, one had multiple arthritis, one had posterior urethritis, severe, with hematuria, and two had acute epididymitis, unilateral.

Diagnosis.—A clinical picture of the disease and the presence of gram-negative intracellular diplococci in the urethral discharge was considered conclusive.

Treatment.—Only the old, simple measures were used. Great care was taken to see that nothing injured the urethra or produced pain. In general the principles of treatment were:

1. Complete rest in bed so long as any discharge was present.
2. A minimum intake of fluid of 3,000 cubic centimeters daily, preferably more, some taking as much as 5,000 cubic centimeters daily.
3. Anterior instillation of (four cubic centimeters fresh) five-tenths per cent protargol once daily during the period of urethral discharge then twice daily. In cases not responding promptly a fresh hot solution of 1: 8,000 potassium permanganate solution was used as an irrigation by gravity at an elevation of twelve to twenty-four inches.
4. Alkalinization of the urine.
5. General supportive measures and symptomatic treatment and variation of the above measures in any individual case where it was deemed advisable.

Discharge from Hospital.—The following criteria were used in discharging a case from the hospital:

1. The patient must be free of symptoms and have no discharge.
2. No evidence of infection on physical

examination and no W. B. C. in the urine.

3. Three prostatic smears negative for organisms and six or less W. B. C. per H. P. F. in thin, uniform smears of the prostatic fluid. Every soldier discharged was seen every thirty days at routine physical inspection, and no recurrences were found.

SYPHILIS—TWENTY-FOUR CASES

Of the twenty-four cases of syphilis the average age was twenty-two, the oldest forty-two, the youngest eighteen years. The average incubation period was seventeen days, the longest being thirty days, the shortest being four days. The average time spent in the hospital was 17.8 days, the longest forty days, the shortest four days. Only three of the twenty-four cases had taken a prophylaxis, or 12.5 per cent. Two cases were admitted with secondary syphilis, the primary lesions being obscure. Less than forty per cent of the primary chancres had positive dark fields.

Diagnosis.—The presence of the primary or secondary lesions, with positive dark field examinations or positive Wassermann and Kahn tests, the latter confirmed by a repeated test.

Treatment.—General measures of cleanliness, locally, mercurial ointment, iodoform powder, etc. The use of neoarsphenamine intravenously and bismuth intramuscularly was routine. The patient was discharged from the hospital when the lesions were completely healed.

Two patients contracted acute gonorrhea and primary syphilis at the same time and ran the usual course of the two diseases concurrently.

TABLE I

SHOWING DATA ON SEVENTY-FIVE CONSECUTIVE ADMISSIONS FOR VENEREAL DISEASE. SIX PROVED NONVENEREAL. FOR AGE, INCUBATION PERIOD, AND DAYS IN HOSPITAL AVERAGE FIGURES ARE GIVEN.

	Number of Cases	Age	Incubation Period Days	Days in Hospital	Complications	White	Colored
Gonorrhea	34	22	5.6	25	5	21	13
Syphilis	24	22	17	17.8	0	7	17
Chancroid	9	23	4	35	2	9	0
Gonorrhea	2	19	3	23	0	2	0
and							
Syphilis	-----	12					

CHANCROIDS—NINE CASES

Nine cases had chancroids, the average age being twenty-three years, the oldest thirty-five and the youngest twenty. All cases were white, no chancroids being present in thirty colored cases admitted. The average incubation period was four days, the longest ten days and the shortest three days. The average time spent in the hospital was thirty-five days, the longest being ninety-four days, the shortest being eleven days. Four of the nine cases had taken a prophylaxis.

Diagnosis.—The presence of the characteristic lesion in all cases with persistently negative Wassermann and dark field examinations.

Treatment.—Cauterization with equal parts of phenol and tincture of iodine. Hydrogen peroxide washes—wet dressings of boric acid; iodoform powder and ammoniated mercury ointment. Two of the cases had suppurative inguinal adenitis. Cases were discharged from the hospital when completely healed.

SUMMARY

1. An analysis of seventy-five consecutive admissions for venereal disease to the station hospital, Fort McClellan, Alabama, is presented.

2. Of these, eight per cent were nonvenereal, 45.3 per cent had acute gonorrhea, thirty-two per cent had syphilis, twelve per cent had chancroid, and 2.7 per cent had acute gonorrhea and primary syphilis.

3. The average number of days lost for each disease is as follows: gonorrhea, twenty-five days; syphilis, 17.8 days; and chancroid, thirty-five days. The time necessary to render a case of acute gonorrhea noncontagious can be markedly reduced by confining the patient to the hospital. It is very doubtful if the time is shortened in cases of primary syphilis and chancroid.

4. The regular army prophylaxis proved 97.8 per cent efficient as a protective procedure against venereal infection in 494 exposures. It is most effective against syphilis, and least effective against chancroid, as four of the nine cases had taken a prophylaxis.

5. The writer wishes to express sincere appreciation to Col. Lee R. Dunbar, Medical Corps, for his assistance and cooperation in the preparation of the above analysis.

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H. H. SHOULDERS, M.D., Editor and Secretary

JULY, 1939

THE ISSUE

SHALL PATIENTS AND DOCTORS RETAIN THEIR FREEDOM OF JUDGMENT IN THE MATTER OF MEDICAL CARE, OR SHALL THIS FREEDOM BE SURRENDERED TO SOME GOVERNMENTAL AGENCY?

EDITORIAL

WELFARE WORK AND CHARITY

The word "welfare" has been used so loosely in recent years that it has ceased to have the meaning it once had and has taken on a meaning which, in our opinion, it should not have. Out of this, it seems to us, there has grown some confused thinking.

The Revolutionary War was fought to accomplish welfare—the welfare which would grow out of independence. The Declaration of Independence was written to accomplish welfare. The Constitution of the United States was written to establish and preserve welfare. All the laws that have been written and enacted by the legislatures of the various states and the congress of the United States end with the phrase, "the public welfare requiring it."

The word "welfare" then does not refer alone to services to an indigent person or group. Public assistance to those who cannot, or do not, provide for themselves may be welfare in a sense, but the word "public

assistance" conveys a more accurate and definite meaning to the activity.

The term "welfare worker," as commonly used now, refers to a person who is, in reality, an administrator of public assistance or charity.

The person who works for wages or runs a successful business, pays taxes, and makes donations to charitable causes contributes to the public welfare in two ways. The nature of the work or business, provided it is essential, does not matter. The people who support themselves, and in addition contribute to the support of others are our *genuine welfare workers*. They provide their own welfare, and, in addition, make possible the existence of those who cannot provide for themselves.

The term "welfare worker" in reality should apply to these people and not to those who are merely the administrators of some form of public assistance which is financed either from taxation or donations. The donations are made and the taxes are paid by genuine welfare workers. These benefits are distributed to indigent persons by the administrators of public assistance.

The work of these administrators is essential. It is honorable if the workers do not abuse their positions and lead their wards, or clients, into a false mental attitude toward the taxpayers and the givers. One sees much evidence now of a dangerous, or at least unhealthy mental attitude on the part of some administrators. They seem to acquire the idea that they, and not the taxpayers and generous givers, are the inspiration and provider of benefits.

Those who earn more than they consume, and make contributions to the needy, whether in taxes or donations, and in addition pay a salary to those who administer the benefits to the needy, are the citizens who are preserving our civilization. They make it all possible. *They are, in fact, our welfare workers*. To portray the situation in any other light is not only false, but dangerous.

HEARINGS ON SENATE BILL 1620 (The Wagner Bill)

The agitation for some form of state

medicine, socialized medicine, or communistic medicine, which has been going on in the United States for some years, is now focused upon the passage of the so-called Wagner Health Bill.

A Senate Committee has been conducting hearings on this bill for some time.

As has been stated many times before "everything that is potent for good is also potent for evil." This bill should be considered with a view to determining or at least estimating its possible effects both for good and evil.

The proponents of the bill insist that a large per cent of the people of this country do not receive adequate medical care, and that the passage of this bill will be a long step in the direction of correcting this situation. This contention is based mainly upon data collected in a survey which was made by the so-called technical committee in 1936-37.

The report of this survey, it will be remembered, embraced figures to show that thirty per cent of people on relief rolls, twenty-eight per cent of people just above the relief level, and seventeen per cent of people with independent incomes had no medical care when suffering from serious disabling illness. The accuracy of these figures have been disputed. Of course the opponents of the bill do not have access to a large amount of government funds with which develop the facts which would overthrow these figures. Those who sponsored the bill did have the government funds for their purpose.

All the factual data available from government sources, life insurance statistics, etc., show that the death rate of the United States from all causes and from individual preventable causes is low in comparison with those of other countries with the alleged benefits of advanced social legislation.

These facts indicate that the people of this country as a whole receive the best medical care received by any people on earth under our existing system of practice.

Then it is proper for any one interested in the welfare of the people to consider the possible effects of this legislation on the welfare of the people as a whole, for good

and for harm, as it may affect, beneficially or harmfully, a system of practice which has so thoroughly demonstrated its efficiency over a long period of time.

The effect undoubtedly would be the destruction of the system of practice as we know it. There are provisions in the bill which vest in various administrative agencies powers which could be used to destroy the freedom of judgment of patients and doctors which is a major element in our present system of practice.

The agency could allocate money to a state, or not allocate it, depending entirely on whether or not the state makes policies which are approved by the agency. This power could be used to influence the appointment of personnel, etc. A local institution could be aided, or not, depending on whether or not it bows to the dictates of the master federal agency. Thus the control of a local institution, its policies and personnel could be accomplished by the use of the power to give or withhold federal funds or by building and staffing a competing institution.

Likewise state and local departments of health could be brought under the domination of a national agency vested with the power to compel the adoption of policies as to administration and personnel which are dictated by the national agency under penalty of withholding grants of federal funds.

Any person with ordinary intelligence can see the ultimate effects which could result from the passage of this bill.

There is no doubt but some of the sponsors of this bill crave the powers provided for in the bill. They insist of course that they would use the power to accomplish welfare. It is well for all to remember that a similar contention was made by every dictator on his way up to the position of dictator.

Who could estimate the political influence which might be exerted on the people of every state by the use of the money and power provided for in this bill.

These questions then must be considered in making one's appraisal of the possible effects of this bill:

1. Is the situation in this country, with

respect to medical care, so rotten as to warrant the destruction of our present system of medical care?

2. Would the enactment of this bill constitute a threat to freedom in medicine?

3. Would the enactment of this bill constitute a threat to our democratic institutions?

The answer to question one is "no"; the answer to questions two and three are undoubtedly "yes."

The real issue then is this: "Shall patients and doctors retain their freedom of judgment, or shall this freedom be surrendered to a government agency in exchange for the possibility of a benefit?"

A NEW DEVELOPMENT IN WASHINGTON

We must act at once. Senator Wagner of New York has introduced a new proposal for the establishment of a National Medical Service under the Social Security Board by an amendment to H. R. 6635.

The following is a communication from Dr. Wm. C. Woodward, Legislative Counsel of the American Medical Association, and is reproduced for the information of all members of the American Medical Association in Tennessee.

It is suggested that officers and members of component societies write or wire members of the Senate Committee on Finance which will consider this particular amendment. The members of the Senate Committee are as follows:

Pat Harrison, of Mississippi, Chairman.
William H. King, of Utah.
Walter F. George, of Georgia.
David I. Walsh, of Massachusetts.
Alben W. Barkley, of Kentucky.
Tom Connally, of Texas.
Josiah W. Bailey, of North Carolina.
Bennett Champ Clark, of Missouri.
Harry Flood Byrd, of Virginia.
Peter G. Gerry, of Rhode Island.
Joseph F. Guffey, of Pennsylvania.
Prentiss M. Brown, of Michigan.
Clyde L. Herring, of Iowa.
Edwin C. Johnson, of Colorado.
George L. Radcliffe, of Maryland.
Robert M. LaFollette, Jr., of Wisconsin.

Arthur Capper, of Kansas.

Arthur H. Vandenberg, of Michigan.

John G. Townsend, Jr., of Delaware.

James J. Davis, of Pennsylvania.

Henry Cabot Lodge, Jr., of Massachusetts.

AMENDMENTS TO H. R. 6635, TO BE PROPOSED BY SENATOR WAGNER, TO AUTHORIZE THE ESTABLISHMENT OF A NATIONAL MEDICAL SERVICE UNDER THE SOCIAL SECURITY BOARD

To the Presidents, Secretaries, and Legislative Committees of State Medical Associations:

I

Senator Wagner's Health Bill, S. 1620, according to the chairman of the subcommittee having it under consideration, will not be reported to the senate during the current session of Congress.

II

Senator Wagner has therefore given notice of certain amendments that he proposes to offer to another bill, H. R. 6635, now pending in the Senate and certain of enactment during the current session of Congress, in order to accomplish some of the objectives that he sought when he introduced his Health Bill. One of these amendments proposes the establishment of a nation-wide medical service under the Social Security Board that seems to go farther toward the centralization in Washington of medical supervision and control than anything proposed in the Health Bill and to afford an easier nucleus around which to organize an all-inclusive, nation-wide, federal medical service. The proposed amendment referred to is as follows:

"Section 207.

"(b) The [Social Security] Board may make provisions for furnishing of medical, surgical, institutional, rehabilitation, or other services to individuals entitled to receive primary disability benefits if such services may aid in enabling such individuals to return to gainful work. Such service shall be furnished by qualified practitioners through governmental and nongovernmental hospitals and other institutions qualified to furnish such serv-

ices: provided that nothing shall authorize the construction of any such hospitals or other institutions; provided further, that expenditures for the purposes of this subsection shall not, in any fiscal year, exceed two per centum of the total amount which the Board estimates will be expended during such fiscal year for the payment of benefits under subsections (d) and (e) of Section 202."

The subsections referred to are appended as Exhibit A.

For convenience, the amendments stated above will be referred to hereafter as the National Medical Service Amendment.

III

The primary parliamentary advantages that Senator Wagner may derive from the procedure that he has now adopted are as follows:

(1) H. R. 6635, into which he proposes to incorporate his National Medical Service Amendment, stated above, has already passed the House of Representatives and is now pending before the Committee on Finance of the Senate. That committee did not participate in the hearings on Senator Wagner's Health Bill, S. 1620, and has no convenient access now to the evidence given before the Senate Committee on Education and Labor when that bill was under consideration by that committee, since that evidence has not yet been published. In view of the pressure for an early adjournment of Congress, it is hardly possible that the Senate Committee on Finance will hold hearings on its own account on Senator Wagner's National Medical Service Amendment. If it acts on that amendment, which it may or may not do, it may have to without full knowledge of the situation. If without action by the committee, Senator Wagner offers his amendments on the floor of the Senate, the committee and the several members of it will obviously be at a disadvantage in debating the subject with Senator Wagner, who not only has given extensive personal consideration to the matter, but who has at his immediate command the various officers of the federal government who seem to be interested in the es-

tablishment of such a service as Senator Wagner proposes.

(2) If H. R. 6635, with Senator Wagner's National Medical Service Amendment incorporated in it, is enacted by the Senate and returned to the House of Representatives, the House, in view of the pressure now being brought for an early adjournment, will have scant time in which to study the new legislation. H. R. 6635, into which Senator Wagner proposes to incorporate his National Medical Service Amendment, deals primarily with old age and unemployment benefits. It was formulated by the Committee on Ways and Means of the House of Representatives after prolonged hearings, from which discussion and consideration of the health and medical aspects of the Social Security Act were excluded. On the return of the amended bill, the House might either vote to accept the Senate amendments or refer the entire bill to a Conference Committee. Such a committee is made up of Senators and Representatives especially appointed for that purpose. Its deliberations are in executive session and its report is privileged and not open for amendment. Because of those facts and because of the probably more extensive acquaintance that the Senatorial members of such a committee would have with the subject matter of Senator Wagner's National Medical Service Amendment, because of the consideration given to it in the Senate Committee on Education and Labor and possibly on the floor of the Senate, their views might carry greater weight than those of the conferees from the House of Representatives, who had had no time to consider the subject.

IV

In Senator Wagner's Health Bill, S. 1620, it is proposed that the Social Security Board be authorized to cooperate with the several states in establishing state medical services. Such authority carries with it authority on the part of the Board to determine whether any proposed state medical service is or is not satisfactory. If the Social Security Board determines that it is not satisfactory, then the state is not to receive federal aid. If federal aid is grant-

ed, and if at any time the Social Security Board determines that the operations of the state service are not in accordance with the agreed plan, federal aid may be withdrawn. Obviously, under such legislation the Social Security Board might easily impose on the several states any form of state medical service that it favored, under penalty of denial of federal financial aid if the state set up a service of which the Board did not approve.

Under the national medical service proposed by Senator Wagner's amendment, the Board would be in supreme control throughout the states. The states would have no voice in the management of the proposed service. Neither would they be called on to pay any part of the cost. An examination of Section 202 (d), proposed as an amendment by Senator Wagner, gives some idea of the extent of the service proposed. The amount to be expended for the maintenance of such services, as stated in the amendment itself, is vague, and whether it would, even under the most favorable conditions, cover the cost of an effective service, no one can tell. If it does not, Congress might be called on to authorize larger expenditures, or the medical corps throughout the country might be called on to render all necessary services for whatever amount might be available.

V

Senator Wagner's proposed amendment to H. R. 6635 would set up, if enacted, a national medical service for the benefit of a limited group of employees of private industry throughout the entire United States. Excluded from the hypothetical benefits of that service would be farmers and farm labor, domestic service, professional men and women, and a multitude of persons engaged in commerce, the arts, and trades on their own account. And yet the expenses of the service are apparently to be paid out of the general revenues of the country, to which every inhabitant contributes, either directly as a taxpayer or indirectly as a consumer. It requires no depth of insight to see that a revolutionary project of this kind

requires more study and consideration than it can receive as a newly-proposed amendment to a lengthy bill, of which it is not an essential feature, within the few days that now remain before the adjournment of Congress.

The Wagner National Medical Service amendment to H. R. 6635 should be opposed.

WM. C. WOODWARD,
Legislative Counsel.

EXHIBIT A

Primary Disability Benefits

Section 202 (d) Every individual who (1) has attained the age of eighteen, but has not attained the age of sixty-five, (2) has filed application for primary disability benefits, (3) at the time of filing application and after December 31, 1940, was disabled (as defined in section 210 (m)), (4) has been currently disabled for not less than six consecutive calendar months, and (5) at the time of filing application was a fully and currently insured individual, shall be entitled to receive a primary disability benefit as defined in section 210 (f) for each month beginning with the month in which such individual becomes so entitled to such disability benefit, and ending with the month immediately preceding the first month in which any of the following occurs: He ceases to be disabled, attains the age of sixty-five, or dies.

Child's Disability Benefits

Section 202 (e) (1) Every child (as defined in section 210 (1)) of an individual entitled to primary disability benefits, if such child (A) has filed application for child's disability benefits, (B) at the time such application was filed was unmarried and had not attained the age of eighteen, (C) was dependent upon such individual at the time such application was filed, and (D) is not entitled to receive child's insurance benefits under subsection (c), or is entitled to receive such child's insurance benefits, each of which is less than one-half of a primary disability benefit of such individual (as that may be reduced pursuant to section 210 (f)), shall be entitled to receive a

child's disability benefit for each month, beginning with the month in which such child becomes so entitled to such disability benefits and ending with the month immediately preceding the first month in which any of the following occurs: Such child dies, marries, is adopted, attains the age of eighteen, becomes entitled to receive a child's insurance benefit under subsection (c) which is equal to or greater than one-half of a primary disability benefit of such individual (as that may be reduced pursuant to section 210 (f)), or such individual ceases to be entitled to primary disability benefits.

(2) Such child's disability benefit for each month shall be equal to one-half of a primary disability benefit of such individual (as that may be reduced pursuant to section 210 (f)), except that, if such child is entitled to receive a child's insurance benefit for any month, such child's disability benefit for such month shall be reduced by an amount equal to such child's insurance benefit for such month. When there is more than one such individual with respect to whose wages the child is entitled to receive a child's disability benefit for a month, such benefit shall be equal to one-half of whichever primary disability benefit is greatest (as it may be reduced pursuant to section 210 (f)).

(3) The dependency of a child for the purposes of this subsection shall be determined in the same manner as is provided in subsection (c) of this section for the purpose of determining the dependency of a child upon a living parent under that subsection.

DEATHS

DR. W. T. SHARPE

Dr. W. T. Sharpe, Farmington; University of Nashville, Medical Department, 1889; aged seventy-two; died June 18.

DR. OLIVER W. HILL, SR.

Dr. Oliver W. Hill, Sr., Knoxville; University of Tennessee, College of Medicine, 1907; aged fifty-seven; died June 21.

DR. PERRY BROMBERG

Dr. Perry Bromberg, Nashville; University of Tennessee, College of Medicine, 1895; aged sixty-four; died suddenly on July 4.

RESOLUTIONS

DR. PERRY BROMBERG

No ordinary duty comes to the Memorial Committee of the Nashville Academy of Medicine in recording the death of Dr. Perry Bromberg. For more than forty years Dr. Bromberg had been one of us, taking active part in all the varied work of our organization and serving both as its secretary and its president. The academy takes pleasure in acknowledging its debt to him and points with genuine pride to his services as a surgeon in this community. As a teacher in the University of Tennessee and later in Vanderbilt University, Dr. Bromberg set a standard of sane and dependable instruction to oncoming physicians that has had few equals. All over the Southland there arises a sense of great loss in his parting.

We present to his widow and to other members of his family our heartfelt condolences.

NASHVILLE ACADEMY OF MEDICINE,
MEMORIAL COMMITTEE.

MEMENTO RESOLUTIONS FOR DR. OLIVER
W. HILL

The following resolutions were passed by the Judicial Council of the Knox County Medical Society which acts for the society when same is not in session. Same goes down on the minutes of the society as action of the society, and a page of the minute book with said resolutions shall always be kept in the archives of the society as a permanent memorial to Oliver W. Hill, M.D., Sr.:

"Dr. Oliver W. Hill, Sr., M.D., died June 21, 1939. He had been a member of the Knox County Medical Society for twenty-nine years, specializing in pediatrics, and being the first doctor in Knoxville who did that kind of work only. He was a faithful

member, as his attendance record shows, and was always ready to contribute scientifically to the society. He always read a paper when called on and gladly helped out when some one could not get their paper ready. He was always ready to do his part financially. He was a real medical society doctor and loved his medical society and said many times "*The local Medical Society is the backbone of organized medicine.*" Dr. Hill was a home-loving man, a good doctor, and a Christian gentleman.

"*Therefore Be It Resolved*, That the Knox County Medical Society accepts the going of Dr. Oliver W. Hill, Sr., as a great loss to the society, and to the medical profession of our entire United States, and may Christ the Great Physician put his arm of love and comfort around Dr. Hill's good family.

"Submitted with a feeling of humility and reverence.

Sincerely,

"ROBERT S. LEACH, M.D., *President.*

"JESSE C. HILL, M.D., *Secretary.*"

NEWS NOTES AND COMMENTS

The third circuit of the postgraduate course in pediatrics sponsored by the Tennessee State Medical Association is being organized in the following centers and lectures will begin on the dates and hours specified at the locations named:

Bristol—Monday, 8:30 P.M., July 17, at King's Mountain Hospital.

Kingsport—Tuesday, 8:00 P.M., July 18, at Holston Valley Community Hospital.

Greeneville—Wednesday, 7:30 P.M., July 19, in County Court Room.

Johnson City—Thursday, 7:30 P.M., July 20, in American Legion Hut.

Elizabethton—Friday, 7:30 P.M., July 21, at County Health Department.

Lectures will be given at the same hour and same day of week in each center for ten weeks. The instructor, Dr. Willis H. Thompson, will first discuss at each meeting the subjects given in the outline of lectures. Following this will be a clinical demonstration where cases are supplied, and round-table discussions of pediatric prob-

lems not included in the outline of lectures when requested by those enrolled.

The interest shown in the course in this area has been most gratifying, as there has been an advance enrollment of seventy-two doctors in these centers.

WOMAN'S AUXILIARY

President.....Mrs. Matt Murfree
Murfreesboro

President-elect.....Mrs. W. T. Braun
Memphis

Press and Publicity.....Mrs. R. Z. Linney
Madison

RUTHERFORD COUNTY

The Woman's Auxiliary to Stones River Academy of Medicine met on May 19 for a luncheon meeting at the home of Mrs. J. A. Scott, with Mrs. M. B. McCrary and Mrs. H. H. Hudson as associate hostesses.

Mrs. H. H. Hudson was installed as president of the Woman's Auxiliary of the Stones River Academy of Medicine. Committees announced by Mrs. Hudson for the coming year were: Mrs. John Cason and Mrs. W. T. Robison, program; Mrs. J. R. Gott and Mrs. T. J. Bratton of Woodbury, telephone; Mrs. W. V. Sanford, public relations; Miss Mary Hall, public health; Mrs. W. K. Tilley, *Hygeia Magazine*; Mrs. M. B. McCrary and Mrs. B. W. Rawlins, public relations; Mrs. Annie Youree, historian; Mrs. J. F. Adams and Mrs. T. M. Smoot, exhibits; Mrs. Black, hospitality.

Mrs. Cason was appointed chairman of the Cancer Control Drive for the counties of Rutherford and Cannon. The address of the afternoon was given by J. P. Kranz, executive secretary of the Tennessee Tuberculosis Association.

The speaker stated that the death rate has dropped since 1933 due largely to the use of pneumothorax in the treatment of the disease. The great need, he said, is to get patients to the medical centers and hospitals for treatment. Many hospitals, such as the Rutherford Hospital, have set side wings for tuberculosis patients, while others have provided annexes and small "rooms on wheels."

Rutherford County now has 240 living tuberculosis patients with no hospitalization provided, said Mr. Kranz. One out of every eleven deaths in the county in 1936 was due to this disease.

The speaker added that "Rutherford County is fortunate in having a hospital where pneumothorax treatment is provided and a staff of trained doctors. Only a few counties in the state have the new treatment."

Mrs. Cecil Elrod, president of the Woman's Auxiliary to Rutherford Hospital, which annually sponsors the antituberculosis drive in Rutherford County, was a guest, as were five members of the Lincoln County Auxiliary.

A musical program was given by Mrs. E. T. Briney, violinist, and Mrs. T. W. Fisher, vocalist, accompanied by Mrs. Harry Gannaway.

Miss Betty Caldwell entertained with dancing, accompanied by Miss Carol Hass of Tennessee College.

Mrs. McCrary, as retiring president, presided.

Luncheon was served at one o'clock from the dining-room table by Mrs. W. V. Sanford and Mrs. John Cason.

Decorative note was an heirloom crystal bowl filled with white petunias and blue cornflowers.

Quantities of spring flowers adorned the reception suite.

DAVIDSON COUNTY

The Woman's Auxiliary to the Academy of Medicine and Davidson County Medical Society entertained Friday evening at a picnic in honor of "Doctors' Day." Members, their husbands, and guests had supper at the home of Dr. and Mrs. Cleo Miller on Shelton Avenue at 6:30 o'clock. Mrs. Miller served as hospitality chairman for the organization.

She was assisted in entertaining by Mrs. George Holcomb, Mrs. J. H. Litterer, Mrs. R. Z. Linney, Mrs. J. Harvill Hite, Mrs. Bruce P'Pool, and Mrs. A. L. Erwin.

Installation of officers took place, conducted by Mrs. Matt B. Murfree of Mur-

freestboro, who serves as president of the Woman's Auxiliary to the State Medical Association. Those installed were Mrs. Joe Travenick, president; Mrs. T. G. Pollard, vice-president; Mrs. T. F. Frist, recording secretary; Mrs. George Holcomb, corresponding secretary; Mrs. Ruben Gayden, treasurer; and Mrs. J. T. Hayes, historian.

The following chairmen for the year were announced: Birthday party, Mrs. R. Z. Linney; finances, Mrs. Hollis Johnson; Girl Scouts, Mrs. J. T. Hayes; hospitality, Mrs. W. R. Cate; immediate past president, Mrs. Oscar Nelson; legislation, Mrs. W. O. Tirrell, Jr.; membership, Mrs. Hamilton Gayden; philanthropic, Mrs. Fowler Hollabaugh; picnic, Mrs. Hershel Ezell; program, Mrs. Cleo Miller; public relations, Mrs. Theodore Morford; revisions, Mrs. H. B. Brackin; visiting, Mrs. Horace Gayden; ways and means, Mrs. Carl McMurray; yearbook, Mrs. B. F. Byrd.

Following the program a movie was shown on the lawn. Out-of-town guests present were: Dr. Matt B. Murfree, Dr. and Mrs. Robert Odom of Fayetteville, and Mrs. E. W. Adair of Springfield.

MEDICAL SOCIETIES

Greene County:

The Greene County Medical Society met at the Andrew Johnson Clubhouse, Tuesday, July 4.

Dr. Hal Henard presented a paper on "Hysteria." Dr. L. E. Coolidge opened the discussion.

Dr. J. T. Campbell presented a paper on "Ectopic Pregnancy."

The following members were present: Drs. M. A. Blanton, L. E. Dyer, H. W. Fox, R. B. Gibson, Hal Henard, L. E. Coolidge, J. E. Kite, W. T. Mathes, H. B. Anderson, and I. E. Phillips. There were two visitors: Dr. R. H. Miller, associate professor of anatomy, University of Tennessee Medical School, Memphis, and Dr. W. G. Justis of Bulls Gap.

(Signed) I. E. PHILLIPS, *Secretary*.

Hamilton County:

June 1—"The Progress of Cancer Research and Treatment," by Dr. S. S. Marchbanks.

July 6—"Splénomegaly: Cause and Treatment," by Dr. C. R. Thomas.

Hardin, Lawrence, Lewis, Perry and Wayne Counties:

The Five-County Medical Society met in Waynesboro on June 27. The following papers were read:

"The Management of the More Common External Diseases of the Eye," by Dr. Fowler Hollabaugh, Nashville.

"The Conservative Treatment of Gall-Bladder Disease," by Dr. A. A. Jackson, Florence, Alabama.

"Injuries of the Chest," by Dr. Murray B. Davis, Nashville.

The next meeting will be held at Natural Bridge on July 25.

Robertson County:

The regular monthly meeting was held on June 20. Dr. J. S. Hawkins, Springfield, read a paper on "Toxemias of Pregnancy," which was later turned into a round-table discussion.

The doctors in attendance were W. L. Gossett, C. M. Banks, R. D. Moore, A. R. Kempf, W. P. Stone, W. W. Winters, B. B. Sory, and W. F. Fyke.

Dr. Robert Sory of West Palm Beach, Florida, was a guest of the society.

The next meeting will be held Tuesday evening, July 18, at 6:30 o'clock, when Dr. B. B. Sory will be host to an old-fashioned barbecue at his home in Cedar Hill.

OTHER MEDICAL SOCIETIES

At the closing session of the forty-fifth annual meeting of the Upper Cumberland Medical Society, held in Cookeville, June 13 and 14, Dr. A. H. Crouch of Forbus was elected president; Dr. E. D. Gross, of Chestnut Mound, first vice-president; Dr. Lex Dyer, of Cookeville, second vice-president; Dr. O. Reed Hill, of Lebanon, third vice-

president; and Dr. L. M. Freeman, of Granville, secretary-treasurer.

Cookeville was chosen as the 1940 meeting place of the society.

ABSTRACTS OF CURRENT LITERATURE

DERMATOLOGY

By E. E. BROWN, M.D.
Doctors Building, Nashville

Colon Bacillus Infection of the Skin: Report of a Case Involving the Hand. H. Ford Anderson, M.D. Washington, District of Columbia, Southern Medical Journal, June, 1939.

The author reports a case of a white male, age forty-six, who was injured on his hand December 27, 1936. The abrasion was on the back of the left hand and in a few days a painful nodule developed at the site of the injury.

His family physician opened the lesion and applied antiseptics locally. The original lesion persisted and similar nodules appeared in a short time. He gradually became worse and was referred to the author February 2, 1937. At this time there was a patch 4.5 by 2.5 centimeters over the back of his hand. At the border of the patch were five or six bluish red nodules, varying in size from about five-tenths centimeter to over one centimeter in diameter. They were rounded in contour and extremely painful and tender. The younger nodules were very hard and indurated, while the older ones were softer, but showed no definite fluctuation. On incision a scanty, thick, viscid, foul-odored, purulent, sanguinous fluid exuded. Within this sharply-defined border of nodules was a fungating, granulomatous mass, elevated well above the normal skin surface.

The picture presented was clinically different from any of the infectious granulomata. Repeated examinations of scrapings and abscess fluid for fungi or yeasts were entirely negative. There was no growth on Sabouraud's media. On agar plates under incubation, the smears showed a few colonies of streptococci and staphylococci with numerous colonies of colon bacilli. The Wassermann and urine tests were both negative.

The histopathology was that of a chronic, non-specific infectious granuloma.

Treatment was instituted with lightly filtered X-ray at weekly intervals and K. I. by mouth. Various antiseptics were used as well as three injections of nicotinic acid at weekly intervals.

The patient continued to get worse. Colon bacillus vaccine was given with marked local and systematic reaction even with very small dosage.

On April 20, 1937, treatment was instituted with mandelic acid and undiluted household vinegar.

Improvement was sensational from this point and within ten days the lesion had practically disappeared.

Periodic checkups over the past year have revealed no signs of recurrence.

INTERNAL MEDICINE

By R. B. WOOD, M.D.
By D. R. THOMAS, M.D.
Medical Arts Building, Knoxville

Water Balance: Edema and Dehydration—A Review of Recent Progress. A. Cantarow, M.D. International Clinics, March, 1939.

Normal interchange of fluid of body depend on four factors: (1) capillary blood pressure; (2) colloid osmotic pressure of the blood plasma; (3) the relative impermeability of the capillary wall to protein and its free permeability to water and most electrolytes; (4) the lymphatic circulation. The resistance offered by the tissues to the accumulation of fluid is of some importance.

Capillary blood pressure at the arterial side is about thirty-five millimeters of mercury and at the venous end around thirteen millimeters. As shown by Landis the pressure is variable and depends on arteriolar constriction or dilatation and changes in venous pressure. Some of the more common forms of edema dependent on increased capillary pressure are congestive heart failure, thrombophlebitis, external pressure on veins, heat, dependency, and vasodilatation. Smirk, Altschule, and Blumgart have shown the absence of relationship of increased venous pressure and edema in mild increases. They believe other factors as hypoproteinemia, poor lymphatic drainage, increased capillary permeability, diminished tissue tension, high chloride intake, high fluid intake.

Increased capillary pressure due to vasodilatation is seldom responsible, of itself, for the production of edema. Heat produces peripheral vasodilatation, raises capillary blood pressure, and through dilatation the capillary wall area for filtration is increased. Similarly in hypertensives with mild congestive failure edema may follow hemiplegia.

Treatment of edema to be successful must depend on understanding its pathogenesis and if possible the correction of the underlying abnormalities that are responsible. Thus unnecessary measures may be avoided. In cases of hypoproteinemia elevation of the plasma-protein concentration is necessary. This may be impossible as long as the factors responsible for its production are still present. Agents recommended for this relief are high protein diet, blood transfusions, intravenous injection of ascitic fluid and intravenous amino acids. There seems to be no advantage of giving over 100 grams daily of protein in the diet, while for children 3.3 grams per kilogram is sufficient regardless of the amount lost in the urine.

Melnick Cowgill and Burach found serum protein was slightly superior to casein and lactalbumin in promoting regeneration of serum protein, but of little practical significance. A high protein diet is by no means always successful in raising blood proteins, but is beneficial in malnutrition and in postoperative nutritional deprivation. Correction of blood protein deficiency by blood or serum transfusion is impracticable as replacement of the lost albumin would require around 3,000 cubic centimeters of whole blood. The work of Elman suggests that amino acids injected intravenously in dogs may be utilized for the regeneration of plasma protein. Acacia solution has been recommended by Hartmann and Senn. It is used as follows: five to sixty grams of a six per cent solution in distilled water are given the first day followed by twenty to thirty grams daily until 120 to 180 grams have been given. Reactions are occasionally seen, but are minimized by the administration of amytal or morphine. Landis believes this should be reserved for cases refractory to other therapeutic measures.

Mercurial diuretics are of special value in treatment of edema of congestive heart failure and may be of aid in nephrotic types. The ones most commonly used are Salyrgan, given intravenously, and Mercupurin rectally. The value of each is enhanced by giving ammonium salts previously and depends on the acidosis produced. Most work done seems to indicate that the effect of the mercurials is due chiefly to diminished reabsorption of water in the renal tubules. There seems to be no increase in the renal blood flow and no consistent proof has been offered that in man the addition of a Xanthine causes any increase in filtration. It has been shown to occur in experimental animals. The following plan is suggested for lessening possible harm from the use of mercurials.

1. Salyrgan is used only when rest, digitalis, and Xanthine drugs fail.
2. Mercurials are not used if the plasma-chloride concentration and plasma C 02 combining power are low.
3. These factors and blood urea nitrogen are frequently checked.
4. Salt solution is given if plasma chlorides fall, and alkalis and glucose if acidosis is marked.
5. Excessive diuresis is avoided (over 5,000 cubic centimeters).

Other diuretic measures have been reviewed by Keith and Hayman as digitalis, Xanthine group, acid-producing salts, hypertonic dextrose solution, and urea. Hayman concludes (1) these should be regarded only as aids to other therapeutic procedures, (2) they depend on an adequate blood flow for their effectiveness, (3) urea and mercurials are best for nephrotic edema.

Page believes the best diuretic agent is urea, given in daily doses of thirty to sixty grams. Schultz and Collier report good results in the nephrotic edema of children by use of large dose

of alkaline salts, given in increasing doses until the pH. of the urine is seven to 7.6 and the plasma bicarbonate rises to normal or above.

Benedetti observes that hypoproteinemia is increased by removal of large amounts of ascitic fluid in portal cirrhosis. Cantarow revealed (1) a loss of from six to twenty grams per day in this condition, (2) the serum protein concentration tended to diminish immediately following paracentesis and to increase subsequently due to hemoconcentration, (3) average chloride loss was two to six grams daily, (4) the serum potassium concentration increased to high levels. It was suggested this disturbance in water balance and electrolyte distribution might have some bearing on the toxic manifestations.

pre-eclampsia are diseases peculiar to pregnancy. They rarely occur without premonitory signs of excessive or too rapid gain in weight, edema, abnormal increase in blood pressure, hypertension, or proteinuria. Either disease may recur, but such a repetition should always suggest vascular renal disease.

OPHTHALMOLOGY

By ROBERT J. WARNER, M.D.
Doctors Building, Nashville

Ocular Infection with Gas Bacillus: Report of Cases. G. Canon. Archives of Ophthalmology, June, 1939.

Infection of the eye with gas bacillus has its original focus in the vitreous and muscles, spreading to the fat and perimysium to a certain extent. The disease, which was known in the eighteenth century and was observed twice by Chaillous in 1904, was given greater consideration during the World War. Canon adds the reports of six cases of ocular infection with gas bacillus to the twenty-two cases described in the ophthalmologic literature of the world. Characteristic symptoms were present in all six cases, making early recognition possible. Perforation of the globe was the port of entrance in each case, and metallic foreign bodies caused the wound in all but one of the cases reported in the literature. Sufficient for the infection in some instances was the mere fact that the piece of metal came in contact with the eye without entering the globe. The first symptoms of severe infection developed after a short period of incubation of from four to twenty-one hours. Complete panophthalmitis was manifest after about eighteen to forty-three hours. An etiologic symptom was sanguinolent or lacquer-colored discharge with gas bubbles somewhere within the eyeball. The general health was good in some cases, while in others the picture of peritonitis was noted, depending on whether a genuine or a mixed infection was present. The disease is influenced by geographic, climatic, and seasonal conditions. It predominates in the cold season during the months from December to March. Districts with heavy loam are more favorable for the gas bacillus than those with sandy soil, and moist weather is more favorable than dryness.

Severe general infection and death are rare complications in ocular infection with gas bacillus, as it is limited to the eyeball. Specimen obtained by enucleation or evisceration showed the formation of a wide vascular zone in the choroid and copious accumulation of bacilli at a certain distance from the blood vessels. Antigas-edema serum acts prophylactically and furthers recovery.

OBSTETRICS AND GYNECOLOGY

By HAMILTON V. GAYDEN, M.D.
Suite 234 Doctors Building, Nashville

Do Eclampsia and Pre-Eclampsia Cause Permanent Vascular Renal Pathology? Wm. J. Dieckmann and I. Brown. American Journal of Obstetrics and Gynecology, May, 1939, Vol. 37, p. 762.

The authors in this communication have answered questions in regard to toxemia that textbooks have not specifically brought out. What percentage of eclamptic or pre-eclamptic patients are likely to have subsequent vascular renal damage, a recurrence of the toxemia, a subsequent normal pregnancy, etc.? This is an endeavor to evaluate various reports from other clinics along with a detailed report from the University of Chicago and the Chicago Lying-In Hospital.

This study of eclampsia shows subsequent pregnancies will be normal in forty per cent of the cases and complicated by a recurrence or exacerbation of the hypertension, edema, or albuminuria in forty per cent. Less than ten per cent will have a recurrence of the eclampsia. Over thirty-seven per cent of the patients had vascular renal disease, indicated usually by a hypertension.

In nonconvulsive toxemia of pregnancy, subsequent pregnancies will be normal in at least thirty per cent and probably forty per cent of the cases, and complicated by a recurrence or exacerbation of the hypertension, edema or albuminuria in fifty to seventy per cent. Over forty per cent of the patients had vascular renal disease, evidenced usually by a hypertension. Renal impairment occurred in two per cent. Chronic glomerulonephritis was present in five-tenths per cent. The authors believe that true eclampsia and pre-eclampsia do not cause permanent vascular or renal damage and that where such damage occurs, either the condition was not eclampsia or pre-eclampsia or these diseases were superimposed on a patient with a predisposition to hypertensive arterial disease. Eclampsia and

PEDIATRICS

By JOHN M. LEE, M.D.
Doctors Building, Nashville

Prophylaxis of Complications of Scarlet Fever. Paul M. Hamilton, M.D., and Yoshie Togasaki, M.D. *The Journal of Pediatrics*, May, 1939.

Previous to this study the authors had observed that thirty-three per cent of their cases of scarlet fever had complications. In order to determine the value of different treatments on the incidence of complications from this disease, two groups of cases were compared. One group was treated with pooled human convalescent serum and a second group was treated with sulfanilamide. The patients were assigned alternately between the two groups and were comparable as to age and severity of infection. Nursing care, isolation, and supportive treatment were identical in the two groups.

In the first group one dose of convalescent serum was given intravenously, the size of the dose varying from forty to 100 cubic centimeters, depending upon the size of the patient and the severity of the infection. In the second group sulfanilamide was given by mouth every four hours in doses to make a total of fifteen grains per twenty pounds body weight in twenty-four hours. After three days this dose was reduced to two-thirds the original amount; three days later it was reduced to one-third and discontinued three days later.

In the serum-treated group the rash, fever, and sore throat were markedly reduced in the first twenty-four hours and disappeared usually on the second day. In the sulfanilamide group the symptoms abated about as would be expected in an untreated case.

There were 348 cases treated with serum, 14.3 per cent of whom developed complications. Sulfanilamide was given to 195 patients and 10.3 per cent had complications. These figures compare with an incidence of thirty-three per cent complications in cases treated by other methods. In this series cervical adenitis was the commonest complication, occurring in thirty patients. The mortality rate was five-tenths per cent as compared to two per cent in patients treated in previous periods.

ROENTGENOLOGY

By FRANKLIN B. BOGART, M.D.
Medical Arts Building, Chattanooga

Annular Shadows in the Tuberculous Lung Treated with Pneumothorax. W. A. Zavod. *Am. J. R. and R. T.*, Vol. 41, No. 4, p. 581, April, 1939.

For many years the roentgen literature contained many discussions as to the origin of annular shadows in the roentgen films of lungs. Some thought they were caused by ulceration and rupture of tuberculous lungs, with resulting localized

pneumothorax pockets. Others thought they represented localized areas of subacute or chronic pleurisy.

Following the work of Arnell in 1927, and the subsequent work of Laurell, Hayashi, and Kjaergaard, it has become well established that annular shadows are caused by emphysematous bullae, which result from the formation of a valvelike arrangement, which permits air to enter the emphysematous area more easily than it can leave it. These emphysematous bullae may occur in tuberculous or in nontuberculous lungs. When they do occur in tuberculosis cases, they may in time become infected with tuberculous bacilli and become converted into tuberculous cavities.

The present report deals with two cases of tuberculosis, treated with pneumothorax, who had emphysematous bullae. The bullae did not interfere with the effectiveness of the collapse therapy, and the bullae were not collapsed by the pneumothorax. In both of these cases bullae appeared after pneumothorax was started, which indicates they were not tuberculous in origin. On deep inspiration and roentgen examination, the annular shadows increased in size noticeably, which eliminated the possibility that these shadows were pneumothorax pockets or pleural rings.

CONCLUSIONS

1. Large annular shadows appearing in a roentgenogram of a tuberculous lung after collapse by pneumothorax in cases that show no evidence of progressive disease are probably emphysematous bullae, not tuberculous cavities.

2. The presence of emphysematous bullae in a collapsed lung does not interfere with the effectiveness of pneumothorax, when such treatment is otherwise possible.

3. A tuberculous lung in which bullae appear after collapse by pneumothorax requires no other treatment than a collapsed lung with similar tuberculous pathology and free of bullae.

UROLOGY

By TOM R. BARRY, M.D., F.A.C.S.
By G. A. WILLIAMSON, JR., M.D.
Medical Building, Knoxville

Urologic Hypertension—A Study of 101 Cases. Chauncy C. Maher and Paul H. Wosika. *Journal of Urology*, June, 1939.

In 1840, Bright first brought before the profession the relation between urologic conditions and hypertension. Sporadic reports have appeared in the literature since that time, but only in recent years have extensive investigations been carried out on this subject.

This report covers 101 patients who present both hypertension and urological defects, fifty-nine being male and forty-two female. The ages ranged from twenty-one to eighty, with the majority between forty and seventy.

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University. Published by The Commonwealth Fund, 41 East Fifty-Seventh Street, New York. 440 pages. Cloth. Price, \$3.00.

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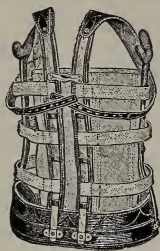
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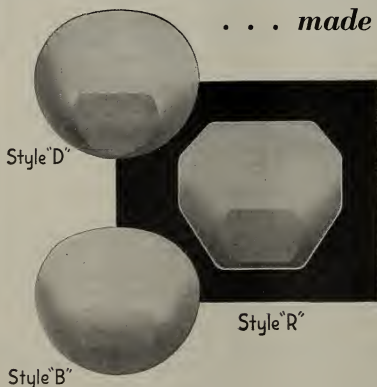
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PELLAGRA: A DISCUSSION OF DIAGNOSIS AND TREATMENT OF THE CLINICAL DISEASE AND THE BORDERLINE STATES*

JAMES B. MCLESTER, M.D., Birmingham, Alabama

IN THE rapidly advancing field of nutrition, pellagra has the spotlight. It is an old disease, but only now does it seem that continued progress is being made. The first step was its description 204 years ago, in 1735, by a Spaniard, Casal. For years this description was the total real information. Casal suggested that it was a deficiency disease, but for almost two centuries authorities thought it due to poisoning from spoiled corn. In 1915 and 1920, Goldberger made the second step when he showed more positively that it was a deficiency disease. The pellagra preventive and curative quality of yeast was partially demonstrated, but in spite of this information, a tremendous incidence and mortality continued. Pellagra remained a real problem to Southern public health, comparable to malaria and hookworm. In recent years many worth-while investigations have given us greater hopes of controlling the disease. Such progress has been made that it is interesting to review the present status of diagnosis, treatment, and prevention of the disease. I shall also add a few comments on the borderline states.

Pellagra is diagnosed by its clinical manifestations. The skin and mouth lesions are characteristic and familiar to all Southern physicians. The added evidence of diarrhea or dementia aids the diagnosis. Ema-

ciation or neuritis or both may also occur and are considered to be part of the clinical picture. The presence of all of these manifestations is not necessary, but the more present, the surer one feels of the diagnosis. With better methods of treatment, and more experience from our study of the disease, we have been making the diagnosis on fewer signs and relying on the therapeutic test to confirm it. We now diagnose the disease on the basis of characteristic skin or mouth findings alone and suspect it on the basis of digestive or mental symptoms. The pellagrin is apt to have porphyrin and indican in his urine and his blood cozymase level is usually quite low. There are laboratory tests for these things, but the results are not characteristic and, therefore, they are not diagnostic. They are helpful, but no positive laboratory methods have been developed. The addition of the therapeutic test has been the only recent development in diagnosis.

The great advances have been in the field of treatment. The older methods, in vogue from Goldberger's paper to 1935, were inadequate. There was an average death rate of thirty to sixty per cent of severe hospitalized cases. When there was improvement, it was extremely slow. In 1935 and 1936 and earlier, Spies and his associates showed that severe pellagra could be relieved by the administration of extremely large doses of liver extracts or of brewers

*Read before the Tennessee State Medical Association, Jackson, April 11, 12, 13, 1939.

yeast. They were given supplementary to a rather full diet, very high in calories, protein, and pellagra preventive foods. With almost superhuman efforts on the part of physicians and nurses, rapid and more frequent improvement resulted. Treatment was effective, but it required individual attention which could not always be given and therefore results were better, but on the whole still poor.

Then, in 1937, came what is perhaps the greatest step forward since the original description by Casal: nicotinic acid would relieve blacktongue, the pellagra of dogs. Without loss of time several groups showed this to be equally true for human pellagra. With nicotinic acid, all is changed. Treatment is easy, the results graphic and sure.

Immediate treatment consists simply in the administration of large amounts of nicotinic acid. We usually give 300 to 500 milligrams daily divided into 100-milligram doses spaced evenly throughout the day. Some patients cannot tolerate this and may develop marked burning and itching of the skin which usually occurs for about an hour after each dose. A smaller individual dose is less apt to produce this, particularly if given on a full stomach. It must be given more frequently. A few patients require a larger daily quantity. These are not always the worst cases, but because of urgency, moribund patients are given 100 milligrams hourly until ten doses or 1,000 milligrams have been given. These amounts are repeated daily until relief results. When the largest doses are given they are subsequently reduced to 300 to 500 milligrams daily. All patients are carefully watched for evidence of recurrence. On return of the symptoms the dose is increased until it is effective, or indicated other materials are given as will be discussed in a moment.

These doses are given by mouth. Even though the patient is vomiting, there will be some response, but in the latter event the drug in solution is given into the muscle or intravenously. Nicotinic acid can be boiled without harm. For intravenous and intramuscular use, nicotinic acid is put into one-tenth per cent solution in physiologic saline. This contains one milligram to the

cubic centimeter. Not over twenty milligrams are given at a time. Ten minutes is taken to inject this amount into the vein. This should not be repeated oftener than hourly. With larger doses, or more rapid or frequent administration, there will be an intensely uncomfortable skin reaction. Parenteral administration is repeated hourly until vomiting stops when oral administration is begun.

I have spoken only of nicotinic acid. Nicotinic acid amide and sodium nicotinate will produce equal results. The diethyl amide is also effective, but the dosage is much larger. It is available in twenty per cent solution as Cormaine and does not produce the unpleasant skin effects.

On this regime, without other treatment, the results are very striking: dementia clears, usually within twenty-four hours; mouth symptoms disappear rapidly; diarrhea, vomiting, and other digestive symptoms stop fairly promptly; the patient's general sense of well-being shows a remarkable improvement and the moribund, delirious patient today is an oriented moderately ill patient tomorrow. He is almost well the next day. Nothing in medicine is as dramatic.

Skin lesions respond less well. If there is only an erythema, it will respond, but more slowly than the other symptoms. Where the skin is broken and there is secondary infection, local treatment is required. We use 1:1000 potassium permanganate soaks and wet dressings.

The neuritis associated with pellagra is unaffected by nicotinic acid therapy. If the diet remains inadequate, neuritis will occasionally develop or progress in spite of nicotinic acid. Neuritis is a symptom of beriberi and the neuritis of pellagra requires antiberiberi treatment for its relief. We give thiamin hydrochloride, that is, vitamin B₁, in 3.33 milligram doses three times daily. This is an effective dose, although perhaps a larger one than is necessary in all cases.

It has been demonstrated that some pellagrins require progressively larger and larger doses of nicotinic acid to prevent the recurrence of symptoms. There is evidence to suggest that this is due to a deficiency

of riboflavin and that with the administration of this vitamin smaller doses of nicotinic acid remain effective. We have treated an insufficient number of cases to allow the suggestion of a dose of this material or description of the subsequent behavior of the patient and his disease. It seems though that it plays a part in proper treatment.

Nicotinic acid, thiamin, and riboflavin supply no calories and the emaciation of pellagra does not, therefore, respond to them. On nicotinic acid therapy, however, the appetite usually improves so that the patient is more willing and sometimes even anxious to eat a sufficient number of calories.

As one sees more and more of pellagra, one is forced to the conclusion that administration of nicotinic acid, or of thiamin or riboflavin relieves only a dietary deficiency of the administered material. Because of these other deficiencies in the usual pellagrins' diet, nicotinic acid's greatest usefulness comes as a supplement to a full well-balanced diet which should be given in all cases. With severer cases or where the diet has been very poor, yeast should also be given as it is rich in all of these materials as well as in a good quality protein.

Nicotinic acid has been called a vitamin. Some try to assign to it the letter G or B₃, but another substance, at one time thought to be the sole pellagra-preventive vitamin has been called by these letters. They seem fairly firmly attached to riboflavin. Too, we do not know if nicotinic acid is the vitamin or if it is some closely related chemical substance. In keeping with the trend regarding the other chemically identified vitamins, we prefer to call this material simply by its chemical name and thereby avoid confusion. Also in keeping with the trend of the times, we are discussing and prescribing these materials in terms of milligrams of the crystalline material rather than in terms of units.

In a recent paper, Spies and his associates showed that clinical pellagra could be prevented by the administration of nicotinic acid. A series of 173 patients who had had the disease every year for from two to fifteen years received the drug and not one

developed the disease. A control group of twenty-six selected on exactly the same basis did not take the drug and every one of them that could be followed developed outspoken pellagra. It is interesting that the dosage required by these patients was the same as is required in treatment of the outspoken disease.

In reporting these cases we said that we had prevented pellagra. Let's examine that statement critically. We did prevent outspoken clinical pellagra, but questions arise: Did we rather treat subclinical pellagra? Were these patients well between their yearly attacks of pellagra or did they have an unrecognizable form of the disease? In the course of a developing nicotinic acid deficiency, when may we call it pellagra? Are degrees of deficiency that are inadequate to produce clinical pellagra productive of symptoms? I am confident that, regardless of what we call it, lesser degrees of nicotinic acid deficiency do produce symptoms. The patients in our preventive series did have symptoms that were relieved by nicotinic acid, but they did not have diagnosable pellagra. There was weakness, general malaise, and a variety of digestive symptoms. Constipation was a frequent complaint, and it too was often corrected with nicotinic acid. There was at times mild mental or emotional imbalance.

Spies has used the expressions, "Chemical Pellagra," "Chemical Nicotinic Acid Deficiency," and similar terms with other vitamins. These were intended to describe the stage when the patient has a vitamin deficiency and yet has no clinical evidence of disease. We feel that this stage of pellagra is associated with symptoms that are suggestive, but not sufficiently characteristic to justify positive diagnosis.

Another series of collected cases also suggested this conclusion. In gathering data on all pellagrins in the Hillman Hospital in Birmingham during the years 1920 through 1935, it was noted that in many cases the patient had been in the hospital the previous year with the diagnosis "psychoneurosis" and no antipellagic treatment given. It seems probable that they had a chemical or subclinical nicotinic

acid deficiency the previous year and as no cause of the symptoms was recognized, they were improperly put into the "neurasthenia wastebasket."

Thus, pre-pellagrins, subclinical pellagrins, chemical pellagrins, that is, the borderline cases, do present symptoms that respond to nicotinic acid therapy. These symptoms are not typical as they might also be related to other disease processes. There is no positive laboratory method of identifying them, though they may show porphyrinuria. They are recognized by suspicion and therapeutic test. Many of these patients are not of the economic class in which one finds most pellagra. Some of them are financially comfortable or even wealthy, but for various reasons have not ingested or absorbed adequate quantities of the vitamin, and yet have had enough to prevent clinical pellagra. These are the patients that present a problem to the practicing physician and if he suspects the true cause give him the opportunity to make a brilliant cure.

I shall cite a few cases briefly:

A sixty-year-old physician had chronic bronchitis, asthma, and cardiac failure. He had no appetite, had a slightly sore tongue, had lost a great deal of weight and weighed less than ninety pounds. He was quite ill. No signs suggested pellagra directly, but the tongue, the poor appetite, and the weight loss at least hinted. On nicotinic acid he developed an excellent appetite, felt definitely better, and began to gain weight. The tongue was no longer sore. The drug, of course, did not help his heart or lungs, but the general outlook and prognosis was improved.

A fifty-four-year-old woman had widely assorted unexplainable pains and was highly nervous, as she described it. She thought that her husband was unfaithful and threatened to kill him, even attempting it on one occasion. There were no positive physical findings except generalized tenderness. On thiamin and nicotinic acid the pains disappeared and she realized that her husband's infidelity was delusional on her part. She became emotionally more calm.

A thirty-five-year-old man had symptoms referable to his stomach. He was highly

nervous and emotionally inadequate to face any problem in life. He had probably had a peptic ulcer in the past. His stomach emptied extremely rapid, and there was a high gastric acidity. On nicotinic acid he became more stable emotionally and the gastric symptoms disappeared for a time. When last seen his symptoms had returned in spite of increased nicotinic acid dosage.

A forty-year-old woman felt perfectly well and had no discomforts, but she complained of the color of her tongue. It was somewhat redder than normal and on nicotinic acid it resumed the normal color.

Did these patients have pellagra? Yes and no. They had a nicotine acid deficiency which, had it been worse, would have been or become pellagra. In each of these patients there was something suspicious but nothing diagnostic. In other similar cases there have been equally good results. In a larger number there has been no response, perhaps because the symptoms have had another undetected cause.

Another instance of borderline deficiency disease, where nicotinic acid and other vitamin therapy is useful, is in combatting the complications of other disease processes. In any disease where there is prolonged loss of appetite, inability to take adequate food, diarrhea, vomiting or other interference with the ingestion, retention or absorption of food, clinical or subclinical pellagra may develop. Many patients are seen whose pellagra is secondary to some other disease. The pellagra in chronic alcoholics is due to failure to take adequate food. Symptoms of pellagra may occur in patients who have been on unusual diets because of fads, fancies, or the ill advice of a friend or of, I am sorry to say, some physician.

In each case of this kind, the primary condition can be treated with greater success if the pellagra is also treated. There are insufficient cases to justify positive statement, but it seems entirely probable that this also applies where there is, or is suspected, a subclinical or borderline deficiency. It is our feeling that nicotinic acid or other vitamin product should be given to any patient in whom such deficiency might justifiably be suspected.

In the treatment of subclinical pellagra the dosage and manner of administration is the same as with outspoken pellagra. As the pellagrin may also have a caloric, riboflavin, and thiamin deficiency so might these people have a multiple subclinical deficiency of these and other material. Both brewers' yeast and the various less highly refined liver extracts have fairly high contents of both thiamin and nicotinic acid as well as a wide variety of other unidentified substances. It has been our observation that these materials in good dosage will frequently give a patient a boost, improve his sense of well-being and make him feel better in general when nicotinic acid or thiamin alone or together are ineffective. It is often well, therefore, to use them as supplements to other treatment.

What symptoms suggest subclinical pellagra? That is difficult to answer as the symptoms are manifold. Weakness, malaise, and easy fatigue may have this origin. So also might almost any digestive symp-

tom, sore mouth, lack of appetite, vomiting, abdominal distress of almost any type, but especially a burning sensation, diarrhea, or constipation. Many mental symptoms might originate from subclinical pellagra.

I neither practice nor advise the treatment of all of these symptoms with nicotinic acid. It does seem appropriate though that the possibility of deficiency should be borne in mind and when no other origin is found, especially when there is an abnormal dietary history, that nicotinic acid should be tried. It is not a cure-all. There will be many failures, but many otherwise intractable complaints will respond beautifully.

There is much about pellagra that we do not know. We have not proven its cause. We have not demonstrated its nature. We do not understand the chemical reasons for its response to nicotinic acid. The field is an active one and I believe that the answers to these fundamental questions are nearer now than they have ever been before. It is an extremely interesting disease.

METRAZOL TREATMENT OF DEMENTIA PRAECOX*

H. B. BRACKIN, M.D., Davidson County Hospital, Nashville

DEMENTIA PRAECOX or schizophrenia is one of the greatest problems the medical profession is facing today. At least fifty per cent, if not more, of the permanent population of the institutions of the United States are cases of dementia praecox, and there are 430,000 beds in these institutions. Besides this twenty to twenty-five per cent of approximately 100,000 admissions each year are cases of dementia praecox. These are the young men and women of our country, and frequently the ones that have excelled in their classes. Is it any wonder that the medical profession grabs quickly at anything that may remedy this condition? Many remedies have been tried in the past with little results since the etiology is unsettled and the pathology unknown.

In July, 1935, Ladislaus von Meduna¹ of Budapest published the results of his experiments in treating dementia praecox with convulsive drugs, starting with camphor, but later finding metrazol to be the best drug for such treatment. The medical world was a little slow to take hold of this treatment, as they were in the throes of excitement over another new treatment for dementia praecox, "The Insulin Shock Treatment." However, it has been found that metrazol is less dangerous, less costly, and less time consuming, with approximately as high a rate of remissions, hence it is beginning to be used in this country in many hospitals.

THEORIES

The idea of treating schizophrenics by inducing convulsions was based upon work done by Nyiro, Jablonsky, G. Muller, and A. Glaus,² all of whom decided that epilepsy made schizophrenia less likely to occur or more likely to have remissions in the small percentage that did occur. These men carried out their experiments and stopped, but

Meduna comes along later and decides from their experiments that there is a biological antagonism between epilepsy and dementia praecox, and sets out to produce the epileptic seizure in the schizophrenic which he found he could do best by the use of metrazol.

Many theories besides the biological antagonism have been brought forward to explain the improvement obtained in schizophrenia by metrazol. One notable theory is by Emerick Freidman³ who says, "It is possible to think, theoretically, of schizophrenia as a correlate of sluggishness of general body metabolism. In schizophrenia, there might be (again theoretically) a physiological barrier to certain associative pathways, that would tend to become more and more impenetrable as the disease progresses. If, however, a regime were set up that would cause a stimulation, irritation, of the whole central nervous system, these so-called barriers might be broken up, allowing proper thought processes to emerge and take their places in carrying on of thought volitional motor activities."

Newdigate M. Owensby⁴ says the schizophrenic process may be the result of an oxygen deficiency in the cortical cells of the cerebrum caused by a vasospasm or vasoconstriction of the cerebral vessels, supplying the cortex, that has been incited by psychical or emotional processes. He gives eight reasons for establishing this hypothesis. Experiments by Lovenhart, Lorenz, and Waters,⁵ and confirmed by Solomon, Kaufman, and D'Elseau⁶ showed that cata-tonics that inhaled forty per cent carbon dioxide and sixty per cent oxygen for two or three minutes became quite normal in responses and activity. These periods of lucidity average fifteen to twenty-five minutes. They felt that this method which changed the conduct promptly was by changing the physiology of the brain, and that originally a psychic problem led to a disorder in the physiology. In these cases

*Read before the Tennessee State Medical Association, Jackson, April 11, 12, 13, 1939.

there was a loss of consciousness, and in some cases convulsive like movements of some muscles occurred. Gellhorn⁷ believes that metrazol benefits mental patients because it is a powerful sympathetic stimulant. Jackson⁸ says the sudden rise of the systemic blood pressure forces open the brain capillaries or larger cerebral vessels increasing the flow of blood through the brain, supplying sufficient oxygen to the cerebral vessels to enable them to carry out their function which has been depressed by some obstruction. Angyal, L.,⁹ states that metrazol owes its effect to vasoconstriction followed by vasodilatation with a selective action particularly on the frontopolar and pre-frontal regions, hence more successful in stuporous states. Himwich, Bowman, Fazekas, and Orenstein¹⁰ have proved by experiments that metrazol produces an anoxemia, and in that way depresses brain metabolism while insulin depresses brain metabolism by diminishing food, hence they show the same thing is accomplished by insulin and metrazol, but by different methods. Himwich, Alexander, and Lepetz¹¹ decided if metrazol benefited by anoxemia, then breathing nitrogen should do so, and should be more easily controlled. They have completed treatment on three with one remission, and two much improved, and two others under treatment and improving. Lemere¹² has shown by electroencephalogram that the alpha rhythm is weak in schizophrenia, and that it is strengthened by metrazol, but this strengthening is not permanent, hence he does not think the benefit will be permanent, but some remissions are of several years in duration, and the electroencephalogram may not be an accurate measuring stick for length of remission.

As seen from the above, we do not know definitely the method by which metrazol causes remissions of schizophrenics, but I am inclined to agree with Himwich that it is due to anoxemia reducing brain metabolism, but why this should bring a remission of symptoms must yet be learned.

CASE REPORTS IN LITERATURE

Meduna¹ reported, of first 110 patients treated, fifty-four showed remissions and

fifty-six no improvement, but this included all cases, but he obtained eighty-two per cent remissions in acute cases, less than six months' duration. Since then he has reported a total of 230 patients treated with forty-eight remissions out of seventy-four under one and one-half years' duration, and twenty-eight remissions out of 154 over one and one-half years, which is sixty-four per cent under one and one-half years' duration and thirty-three per cent for all treated. Meduna and Freidman¹³ have recently summarized all patients treated in the United States and Europe. They report 1,465 schizophrenics have been treated in the United States, some not yet have been reported in literature. One thousand four hundred seventy-two have been treated in Europe—19.86 per cent of total number in United States have shown full remissions, and 30.37 per cent in Europe or 25.09 per cent of all treated. In the United States—

UNDER SIX MONTHS

	Per Cent
Number of remissions	60.95
Improved	20.00

BETWEEN SIX AND TWELVE MONTHS

Number of remissions	36.82
Improved	23.13

CHRONIC—OVER ONE YEAR

Number of remissions	8.36
Improved	37.76

In Europe—

ACUTE—UNDER ONE AND ONE-HALF YEARS

	Per Cent
Number of remissions	49.66

CHRONIC—OVER ONE AND ONE-HALF YEARS

Number of remissions	13.32
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As seen from these statistics, it is of paramount importance that schizophrenics be treated early within the first six months if possible. Some very fine percentages of remissions have been reported if treated within six months. Sorger and Hoffman¹⁴ reported on 100 patients treated, 76.3 per cent of these of less than six months' duration had remissions. Low et al.¹⁵ obtained 66.7 per cent recoveries under six months. Finkelman, Steinberg, and Liebert¹⁶ reported eighty-five per cent of remissions under six months' duration. Brausseau¹⁷ treated 110 patients and reported eighty-two per

cent remissions in cases of recent onset. As the length of duration of the disease before treatment increases, the percentage of remissions decreases. The author does not think it worth while to treat if of more than four years' duration.

Metrazol is being used also for the manic depressive and involuntional types. Bennett¹⁸ reports twenty-one treated, and all recovered with one relapse. We are treating some of these, but are not ready to report results.

Metrazol was started in the Davidson County Hospital in March, 1938, at which time very few reports on it had been published in this country. We have been rather slow to report, as we wanted to see how our patients that recovered would do at home. The method which we have followed in its administration has been according to von Meduna with a few variations.

METHOD OF PROCEDURE

The patient is given a complete physical examination first because if the patient has heart, lung, or kidney disease or has fever, is menstruating, or has had previous head trauma, they are considered contraindications for treatment. The patient is placed on soda bicarbonate two drams three times a day until urine is alkaline before treatment is begun. He is given a laxative each night before metrazol the next morning. The metrazol is given twice each week in the morning on an empty stomach which has had no food since the evening meal the day before. A ten per cent aqueous solution of metrazol is given intravenously as rapidly as possible with an eighteen gauge needle. Three cubic centimeters are usually the original dose for a female, and four cubic centimeters for a male. Occasionally this may be too small, or may get a more prolonged action than desired, and then the dose is gauged by the patient's reaction. Meduna¹ increased one-half cubic centimeter each two doses, and one cubic centimeter if no convulsion, but we usually increase two-tenths cubic centimeter each dose, and one-half cubic centimeter if no convulsion when not repeated until the next day, but if repeated within a few minutes, the same

dose. The patient is placed in bed with an attendant on either side to keep him from throwing extremities to prevent dislocation or fracture. A gauze gag is placed in his mouth to prevent injury to tongue or teeth. A nurse or doctor usually supports the jaws to prevent dislocation. The patient blinks eyes, usually coughs, and goes into convulsion in from five to fifteen seconds. They usually have three distinct phases, clonic, tonic, and clonic, but occasionally only two. The first clonic lasts five to fifteen seconds, tonic five to twelve seconds, and clonic twenty-five to sixty seconds. Usually the entire convulsion lasts about one minute. The patient has marked apnea at end of convulsion, and occasionally artificial respiration is necessary. Most of them have a period of air hunger, at which time they go to sleep and sleep five to fifteen minutes. They then awake, and a few are confused, and occasionally one is excited for a few minutes, but most of them are quiet, and none know what has happened except they have been asleep. We allow them to get up as soon as they feel like it if not excited. Most of them are soon ready to eat, but occasionally one is nauseated. The convulsions are given twice each week until a remission, but if no remission is obtained by the time twenty-five have been given, it is not considered worth while to give more. If a remission is obtained after seven or eight convulsions, then three or four more convulsions are given before treatment is discontinued. We have found metrazol will not do it all, and that it is necessary to make a mental examination once a week to help them to understand the mental difficulties they have had. In other words the psychic treatment is very necessary, hence metrazol should be given by a psychiatrist. Up until this paper we have completed treatment of thirty schizophrenics, and have had no deaths, no complications except temporomandibular dislocations, which were replaced before patient gained consciousness.

CASE RECORDS

1. M. W. K.—A married white woman, age twenty-seven years, attack sudden in

onset. While in a hospital, gave birth to child, became wild February 21, 1938, after birth of baby. Admitted February 26, 1938, to Davidson County Hospital in a wild, excited condition, and had to be restrained in bed, since baby was only five days old. Would sing, laugh, holler, and speech was incoherent and irrelevant. Excitement changed to retardation. Became untidy, showed confusion and blocking. Reacted to auditory hallucinations. Had sexual ideas such as thinking pregnant again. Patient was negativistic, and showed no interest in anything. Metrazol was started April 21. After eight convulsions, she became neat and tidy and talked coherently, and began to take interest in ward affairs. She was given seven more convulsions and two doses when only had petit mal reaction. She was sent home July 20, 1938, in a complete remission, and has been doing her housework and caring for her two children since.

2. C. P. H.—A married white woman, age twenty-five years, has two children. Admitted to Davidson County Hospital March 8, 1938, with history of mental trouble gradually progressing over a period of three years with no hospital treatment. At home would lie in bed staring at ceiling. At times refused to talk or eat, thought the food was poisoned. Had ideas of reference, persecution, auditory and visual hallucinations. In the hospital did not want to eat. Showed some waxy flexibility. Never spoke over three or four words, such as, "I don't know." Completely indifferent to surroundings or examination. Metrazol was started April 17, 1938. She showed improvement after first convulsion, began to talk freely and take an interest in the ward. She was given four more treatments with only one convulsion of grand mal type because of small veins, hence it was difficult to give rapidly. Patient at this time had insight into previous condition, and explained all previous abnormal behavior, and her delusions at that time. Said she felt normal again. Patient was given nine more treatments with only five grand mal attacks due to poor veins. She had seven convulsions and fourteen treatments. She was released July 10 in complete remission with insight

and plans for the future. She has continued well.

3. M. L. P.—White female, married, age twenty-nine years. Admitted April 10, 1938. History of mental trouble beginning suddenly February 13, 1938, but had been peculiar, timid, poor conversationalist for several years. At home was restless, could not sleep, thought electric wires were everywhere in the house, and the telephone was tapped. Refused to eat. Lay in a catatonic state, staring at ceiling, very negativistic. Got up and wandered over the house at night. Many ideas of reference and persecution. On admission, she was confused and negativistic. Had to be tube fed. She constantly tried to get out of the ward. She talked in a low, mumbling tone, most of which was incoherent and irrelevant. Had visual and auditory hallucinations. Metrazol was started April 17, 1938. She resisted so markedly, keeping all extremities in constant motion by twisting and squirming, that she was the most difficult to treat we have ever had, as it usually took at least four to hold her. After the first convulsion, she took nourishment, whereas she had been tube fed every day since admission. After thirteen convulsions out of fifteen treatments, patient gained weight and became better physically, but very little better mentally, and treatments still had to be given her by force. She was given seven more treatments, all with convulsions. She improved rapidly and, although not completely well, was allowed to go home July 20 because her people insisted. She continued to improve, getting in a complete remission, and has continued so.

4. M. J. — Colored female, single, age twenty-two years, admitted December 12, 1937. History of mental trouble for one month. Talked irrational and became destructive. On admission, she laughed, sang, and was combative and destructive. This continued for several weeks. She then became indifferent and had many somatic delusions. Metrazol was started May 26, 1938. After eighteen convulsions out of nineteen treatments, she was much better, but still no insight, judgment poor, and some peculiar ideas. She was given three

more treatments, giving her in all twenty-two convulsions and twenty-three treatments. Three weeks after treatment was finished, she was allowed to go home in complete remission, and has been doing fine since.

5. A. M. McK.—White female, widow, age thirty-four years. Admitted November 25, 1937, with history of mental trouble since February, 1937. She suddenly got worse November 24, becoming acutely excited, talked at random, ran down the street partly dressed. Thought she was being gassed, although there were no gas connections in the house. On admission, she was in a catatonic state, refusing to eat or speak, and her movements were almost passive. She preferred to lie in bed, completely covered with bed clothing, in an embryonic position. She continued this way for six months, having to be tubed each day. She became very untidy, and appeared to be deteriorating from the washed-out facial expression. She lost weight from 106½ pounds down to seventy-two pounds. Metrazol was started April 17 with marked carelessness due to her weakened condition. After four treatments with convulsions, she began to take liquids. After the fifth convulsion and eighth treatment, she improved suddenly. She went to bed in the usual catatonic state, mute and negativistic, and when the attendant unlocked the next morning, she spoke pleasantly to the attendant, and told her she would like to have eggs and toast for breakfast, the first solid food she had taken in six months. She did not seem to be able to get enough for several days, eating four or five times each day, and two or three helpings. After sudden improvement, she wanted to know where she was, how long she had been here, and about her child. She continued to improve. After seventeen convulsions, she laughed some without reason and had poor judgment. She was given two more convulsions, making nineteen convulsions and twenty-two treatments. September 6, 1938, two months after treatment was finished, she was sent home in complete remission, at which time she weighed 114¾ pounds, 43¾ pounds more than when treatment started and eight

pounds more than on admission. She is continuing to stay well.

DISCUSSION OF RESULTS

The above five reports were an average of the thirty treated. The patients treated had histories of being schizophrenics from three months to ten years. There were eighteen catatonics, ten of paranoid type, and two of hebephrenic. Nine of the catatonics had complete remissions, five paranoids and one hebephrenic, making a total of fifteen remissions out of thirty treated. Of these fifteen there have been three to have relapse. One after seven months at home, one after six months, and one after two months, leaving twelve still at home after ten months.

DURATION OF ILLNESS

ACUTE TYPE—UNDER SIX MONTHS

Number treated	7
Number of remissions	7

SUBACUTE TYPE—BETWEEN SIX MONTHS AND ONE YEAR

Number treated	8
Number of remissions	3
Number much improved	1

CHRONIC—ONE TO TEN YEARS

Number treated	18
Number of remissions	5
Number much improved	2

The three that had relapse were of twelve, thirteen, and twenty-four months' duration. None of the acute have had relapse, giving us 100 per cent results under six months, 28.5 per cent six to twelve months, and 18.7 over twelve months. We had fifty per cent remissions of all treated and forty per cent still doing well after nearly one year. All of our patients gained weight during treatment. One patient gained sixty pounds and another forty pounds. Every patient improved some, making them easier to care for, as they are more tidy and more interested in their surroundings.

SUMMARY

1. A recent treatment of schizophrenia brought forward by L. von Meduna of Budapest.
2. Many theories as to how metrazol brings about remissions, but no one definitely accepted by all workers.

3. Metrazol less costly, less time consuming, and less dangerous than insulin.

4. Thirty cases reported, fifteen remissions, three relapses, twelve yet doing well. Seven out of seven, less than six months' duration, still in complete remission.

5. All patients gained weight and improved to some degree mentally. No deaths, no complications.

6. A treatment worthy of trial with little danger and not difficult to administer.

7. If we can get the schizophrenics before six months, I believe we can restore almost all, and it would be a great saving to the taxpayers, relieve the congestion of the institutions, and be a blessing to the patients and their families, so I want to make a plea for earlier diagnosis and treatment of the schizophrenics.

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DISCUSSION

DR. CARROL CONWAY TURNER (Memphis): Dr. Brackin has given a good resume of the subject of schizophrenia from the standpoint of supposed causation and associated physiologic dysfunction and also as to the history and theory of metrazol shock treatment. The relationship of cerebral anemia to the presence of this disease has had its exponents for many years. It was this idea that prompted Cunningham to persuade the Timkin Bearing Company to erect a large, hollow globe of metal on the commons of Cleveland. The bearing company recognized the commercial value of such a shiny metal sphere—a huge replica of a ball bearing—rising 100 feet from base to apex and visible for many miles as one approached Cleveland. This hollow sphere was so equipped with valves as to allow control of its oxygen content and carbon dioxide exhaust and was so equipped inside as to make it livable for several patients. The results in some cases were dramatic, as long as the patients remained in the ball, but upon resumption of life in the usual atmosphere suffered relapses. Schizophrenics have also been treated in oxygen tents, by oxygen inhalation, and even by oxygen subcutaneously with plus or minus results.

Dr. Brackin failed to emphasize the psychogenic and constitutional factors, which must be considered as predominant in the sum total of the personality reaction type which we know as schizophrenia. Adolf Meyer has coined the term psychobiology. Briefly he postulates that the mind

is not housed in one organ—the brain—but is the sum total of the individual's inheritance—life intra-uteri, birth, infancy, childhood, and adolescent experiences. These include not only psychogenic and emotional experiences, but physical diseases, injury, and chemical influences.

Associated with this we expect of the schizophrenic a more or less definite constitutional pattern. According to Kretschmer, he will usually be the hyperotomorph in physical habitus with elongated narrow torso and viscerotopic. He is either athletic, or asthenic, but never short, stocky, or obese. His vegetative balance leans to the vagotonic phase, with all his parasympathetics dominant over his sympathetic system. This results in deep-set eyes with narrow palpebral fissures, small pupils, low blood pressure, slow pulse, cold, clammy extremities, chronic constipation. His behavioristic qualities are marked by eccentricities, overambitiousness, stolidity, perseverance, and obstinacy. He is an introvert and projects to his environment traits which he disowns. With such a setup he is an easy target for some life's situation, which thrusts him from reality into a world of phantasy.

Now that the hysteria, which usually beclouds the real efficiency of any new treatment, is subsiding and after a year's use of metrazol shock treatment, let us look in cold retrospect upon our real results and evaluate this treatment unemotionally.

1. Metrazol alone is no more the whole story in this treatment than is simply the application of a splint in a fracture. It should be followed up, particularly during the postconvulsive period when the patient is most lucid, with adequate occupational and psychotherapy. We believe, therefore, that metrazol shock treatment should be adopted only by those individuals and institutions who are trained in and have adequate facilities for this specialty.

2. In March, 1938, we gave our first metrazol shock treatment, and since this time have administered 238 shocks to forty-three different types of neurogenic and psychogenic conditions.

3. Of these, ten were unselected cases of schizophrenia.

4. These ten cases in all received ninety-four shock treatments.

5. The number of treatments per case were one to twenty-one.

6. Of these ten cases, seven or seventy per cent were definitely improved, and three or thirty per cent were unimproved.

7. Of the seventy per cent of improved cases, five or fifty per cent showed complete remissions, with no evidence now of over a year in three of these of relapse.

8. Of the remaining two cases cited as improved, one has not improved sufficiently to be paroled home, but has made such improvement as to allow her freedom of the grounds and dining room, whereas

previous to treatment she had suffered complete isolation in restraint.

This is the oldest case in point of duration of the disease and is a result contrary to the usual case of this duration.

9. The other case was a puerperal psychosis of characteristic schizoid pattern who improved sufficiently to be paroled home and has adjusted herself fairly satisfactorily to a domestic life.

10. Our experience has proven that metrazol shock treatment has been more efficacious in the depressed manics and in involuntal melancholia than in schizophrenia.

Of seventeen of these types of psychoses, twelve have been discharged home as cured. Only one of these has relapsed.

1. Mention should be made of some of the unusual reactions of metrazol. Our experience has proven that a subconvulsive dose of metrazol is frequently as effectual as that producing a hard generalized seizure. This is especially true in the psychoneurosis and hypomanias.

2. The blood pressure rapidly rises twenty to forty millimeters immediately after the convulsion and remains elevated from fifteen to thirty minutes. The diastolic pressure rises proportionately with the systolic pressure.

3. The blood sugar rises following metrazol convulsion, incident to liberation of glycogen from the muscles and the compensatory output of adrenalin which must accompany the convulsion. This explains why metrazol shock always aborts a hypoglycemic shock, when these two methods are used together. We have observed this a number of times clinically in these cases but do not have our data in statistical shape as yet to report.

4. Metrazol shock offers a new diagnostic approach in hysterical paralysis and suspected malingering. The paralyzed member convulses with equal intensity to the nonparalyzed member, and during the immediate postconvulsive delirium, the patient motivates the supposed paralyzed member with equal force.

DR. JESSE C. HILL (Knoxville): Dr. Brackin kindly sent me a copy of his paper, and I read it with a great deal of interest. He has given an extensive resume and hypothesis of the action and effect of "Metrazol in the Treatment of Dementia Praecox," with report of cases by many of our men doing research work, supplemented by some interesting cases of his own. I would like to emphasize some of his pertinent remarks.

1. The right diagnosis should be made in the case. The case should be a true psychotic, and by no means an exaggerated personality.

2. When a right diagnosis is made, and after thorough physical examination, if the patient is classed as favorable, the medicine should be administered in an institution for mental sickness, and given by a psychiatrist.

3. Along with said treatment which Dr. Brackin was so honest in stating was the regular mental course of treatment, as given one who does not have the metrazol treatment, should be carried out.

4. I would like to add to the discussion of Dr. Brackin a thought I am sure he takes into consideration, but for the lack of time, he omitted. Let's pay close attention to this. After a patient has had metrazol and is apparently in condition to leave the institution, one must remember that more than half the time unpleasant mental impulses pouring in the mind in great numbers was a causative factor; as domestic, social, economic, religious, and occupational. Metrazol nor any other drug will hold a patient in balance for a long period of time unless said conditions are modified or removed. A good doctor suggested to me that if the mother-in-law had been a causative factor give her metrazol also.

5. Digressing from the subject, but cognizance should be taken of a trend by private institutions (none in Tennessee as far as I know are guilty) to make a racket, by treating with metrazol all mental conditions and charging outrageous prices for same. If you read some of their literature and statistics, and believed them, one would believe their results were 150 per cent. IN THE POOR THEY ARE MUCH LOWER. STRANGE, ISN'T IT?

6. In conclusion, as the good doctor in his splendid paper has said, "*Metrazol, from what truthful research work and the truthful reports, of those interested in only the patient, is a very important adjunct in the treatment of dementia praecox.*"

DR. J. P. GILBERT (Nashville): I know the time is growing late, but I cannot let a paper like this go by in which I am so intensely interested. I want to congratulate Dr. Brackin on his presentation. I, in my consultant service at the Madison Sanitarium at Nashville, have had experience with nine cases, and I am just completing treatment of a young lady twenty-two years old in the St. Thomas Hospital at Nashville.

In our experience we have treated nine cases, their ages ranging from twenty-one to forty-five; average duration of the illness was nine months, longest was two years, and the shortest was three months.

Types of psychoses, seven dementia praecox, one manic depressive, one involuntional melancholia, one psychosis type undetermined. We had total convulsions numbering eighty. The first dose was 2.5 to 4.6, and the highest dose in the series was 9.3 cubic centimeters of metrazol.

Results.—We had good remissions in six out of ten, moderate improvement in one, slight in two, and no improvement in one.

I do not think that this treatment is any less dramatic than others are getting with sulfapyridine in the treatment of pneumonia. The meat of the thing will be the length of the duration of the remission. I recall the remark an intern made at St. Thomas Hospital the first time we induced a convulsion. He said, "Doctor, it takes a lot of courage even to recommend a treatment like that." It is courageous treatment, but we are dealing with a courageous disease.

I do not think, with the good percentage of remissions that we are getting with this treatment, that we have any fear of what damage we might be doing to the patient. I just read in the Archives of Neurology and Psychiatry last month—I forget the name of the man that wrote the article—of some animal experiments on cats and dogs. He used a different form of chemical from metrazol, but he reported some histological changes similar to those found fairly constant in epilepsy, but if we can put those people back in life with a percentage of remissions from sixty-five to seventy-five per cent, I think we are justified in doing the treatment.

DR. H. B. BRACKIN (closing): I have very little else to say. I might say that I have finished treatment on seven others since I wrote that paper, and four of those are in a state of remission, and I certainly want to agree with Dr. Hill in regard to environment. One of these patients had a relapse that we are almost sure was purely due to the environment, because it was so very, very bad the patient was almost as well after a few days at the hospital without any treatment as he was when he left. He simply had to get out of his home environment.

I thank the gentlemen.

THE DIFFERENTIAL DIAGNOSIS OF THE DIARRHEAS*

TIM J. MANSON, M.D., Chattanooga

ALTHOUGH we are ever interested in the unusual, it seems always of value to discuss some of the more common medical problems, especially those that are causes of uncertainty in diagnosis. And, of these, one of the most frequently encountered diagnostic problems is that of diarrhea. This symptom is associated with so many different diseases, and is of such great variation in both severity and type that it must be considered carefully and correlated with the patients' other symptoms in order to arrive at a correct diagnosis.

For the purpose of this paper I will pass over the diarrheas of children as a distinct entity, and will not include them in the discussion.

One may separate the diarrheas into those that are acute or chronic; and subdivide each of these classifications further into those that are:

1. Functional.
2. Infectious.
3. Inflammations and new growths.
4. Deficiency diseases.
5. Toxic.
6. Those seen after ingestion of poisons.
7. Those of unknown etiology.

Before going further, may it be said that it is extremely difficult to accurately place some of these diarrheas into the proper classification, but it has been done as simply as possible, and according to the consensus of opinion of leading authorities.

The largest single group of diarrheas is that which has been termed "functional," and in it one sees both acute and chronic conditions, the latter being predominant.

By far most of the functional diarrheas may be placed into an all-inclusive classification, which, for want of a better term, shall be called the irritable colon or unstable colon. This is a very frequently seen condition, and is most distressing to the patient.

The so-called spastic colon, which may cause alternating diarrhea and constipation, the misnamed mucous colitis, which is not a true colitis at all, are both merely, to my mind, manifestations of an irritable colon. Also in this group are those unfortunate patients who have a "trigger mechanism" of their bowels, so that within a few minutes after their stomachs are filled, cramps set in and a loose evacuation follows.

Also functional are those diarrheas resulting from improper digestion either in stomach, pancreas or small intestine. Achlorhydria, or hypochlorhydria, are frequently causes of diarrhea, although by far the majority of the patients with this deficiency do not manifest the symptom. The achlorhydria may be either idiopathic, or associated with some other condition, such as pernicious anemia, sprue, etc.

Improper pancreatic or intestinal digestion is the result of deficiency in one or more enzymes, and causes, in addition to the diarrhea, increased fermentation and flatulence.

Allergy to one or more articles of food or drink is a commonly overlooked cause of loose stools.

Also looming large as a cause of acute functional diarrhea, we have various dietary indiscretions. This may be merely the result of overeating or drinking, or, as is more frequently the case, comes from eating foods which are not properly ripened or refrigerated. Food poisoning is also to be mentioned here, although some investigators feel that there is an infectious element in true food poisoning.

A diarrhea secondary to a fecal impaction is seen fairly frequently, especially in older people, who, due to poor dietary habits and prolonged catharsis, have produced in their bowels a marked atonia. This is the so-called paradoxical diarrhea, and is often overlooked due to failure of the physician to make a digital rectal examination.

Then, too, a type of functional diarrhea is seen in some cases of *tabes dorsalis*, or

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spinal cord tumors, whereby the nervous control of the bowel and anal sphincter is lost.

And, as the last of the functional types, I include those which are secondary to circulatory disturbances, as seen in cardiac failure, cirrhosis of the liver, etc. Probably this is due to thickening and edema of the intestinal wall.

The infections which may cause diarrhea are varied, and are all potentially serious. Most of them are acute and fulminating, the great exception being tuberculous infection of the intestinal tract. Among those to be discussed are typhoid fever, paratyphoid fever, bacillary dysentery, amebic dysentery, cholera, and the less severe cases of enterocolitis, which are probably also infectious in nature.

The intestine is beset by several diseases which have been grouped under the general heading of new growths and inflammations. Perhaps one or two of these will eventually find their true place among the infectious diseases, but for the time being must lodge here until their real nature is brought to light.

Enumerating these, one can mention carcinoma, sarcoma, benign tumors such as polyps, diverticula, appendicitis, syphilis, ileocolitis and its close relative terminal ileitis, and ulcerative colitis.

Diarrhea is also a symptom of some of the deficiency diseases, notably pellagra. Whether pernicious anemia and sprue are to be eventually classed as deficiency diseases is still debatable.

In many instances, during the course of other diseases, diarrhea may occur as a distressing complication. It is seen at times in acute colds, pneumonia, pyelonephritis, the exanthemata, and in exophthalmic goitre and Addison's disease. It is these cases that I have termed due to toxic causes.

Diarrhea is also seen in metallic poisonings, the chief offenders being mercury, arsenic, antimony, and lead.

And, as our last group, we have the diarrheas of unknown etiology. The most conspicuous member of this is sprue, whose cause, despite earlier belief that it was

caused by infection with the *Monilia psilosis*, has never been adequately determined. It is apparently closely related to coeliac disease in children and may eventually be properly classed as a deficiency disease. Some other diseases previously mentioned might well have been classed as of unknown etiology, but these have been placed, to the best of my ability, in other of the major classifications which have been attempted.

And now we come to the question of diagnosis of each of these conditions, which will be considered as groups. The first great problem which confronts the diagnostician is making the decision as to whether a given case of diarrhea be functional or organic in nature.

May it first be said that a diarrhea must not be considered functional until after the organic causes are satisfactorily ruled out. To do this requires a thorough, complete examination, including the oft-neglected digital rectal examination, and a sigmoidoscopy. Without these, certainly some of the more serious etiological factors will be at some time overlooked. Then, of course, a blood count is valuable, particularly to determine the presence or absence of an anemia, leukocytosis, or an eosinophilia. A gastric analysis should most certainly be done in any of the more protracted diarrheas, and of course, X-ray examination should be done if at all feasible. And, naturally, one must not overlook stool examinations and cultures.

After exclusion of organic causes, by the complete investigation as just outlined, it is often not hard to reach the diagnosis of an irritable colon, under which head, be it remembered, I have placed mucous colitis, the nervous diarrheas, and those dependent upon the trigger mechanism.

Patients suffering from these conditions usually do not consult the physician until after they have been troubled for some time, during which there have been frequently recurring episodes of diarrhea.

The diarrhea is as a rule not very severe with only a moderate number of stools, but often associated with quite severe lower abdominal cramps and urgency. Most of these patients also have other symptoms such as

flatulence, abdominal distress, and belching. If there be a trigger mechanism, the patient will tell of marked cramps and urgency within fifteen to thirty minutes after meals. The character of the stools is also important. Those of an irritable colon are loose and watery, and may have mucus mixed with them, but never blood, unless it comes from the hemorrhoidal ring. Examination of these stools show no unusual organism, nor does culture show anything out of the ordinary.

On physical examination very little is found except very often an easily palpated sigmoid, and perhaps tenderness over it and the rest of the colon. Sigmoidoscopy reveals nothing, save perhaps a mucus discharge over portions of the rectosigmoid. Most of the patients with irritable colons have normal gastric acidity, but they may be, of course, complicated by either low or high acidity. Roentgen examination will show definite signs of an irritable colon, such as increased haustral markings, redundancy, and very frequently a smooth, tube-like descending colon.

Due to impaired gastric digestion, manifest mainly as hypo- or achlorhydria, loose movements often occur. Frequently there is an associated irritable colon, but diagnosis rests mainly on gastric analysis. Symptoms are very similar to those just described in the discussion of irritable colon. Microscopic examination of the stools shows little more than an excess of unaltered muscle fibers.

In improper pancreatic digestion the patient often complains of marked epigastric bloating and discomfort after eating, and a diarrhea consisting of copious, pale, fatty stools, microscopic examination of which shows an excess of fat globules, as well as undigested muscle fibers.

The diagnosis of allergy as a cause of diarrhea is often arrived at only by exclusion, but probably more common than ordinarily thought. The relation of the diarrhea to the ingestion of certain articles of food should certainly bring the question of allergy to mind, and often this feeling may be substantiated by the presence of an eosinophilia, although more frequently this

is not the case. Many conscientious workers have reported reliance upon the leukopenic index as an indication of allergy, but diagnosis is more frequently made either by the success of elimination diets in controlling the symptoms, or by a painstaking series of skin tests. One must keep in mind though that at times the offending foods do not give positive skin reactions, a situation which gives the physician great difficulty in diagnosis. It is unfortunate, indeed, that more reliable diagnostic procedures have not yet been devised, but perhaps, with further use, the leukopenic index will prove of decided value to us.

Food indiscretions or the food poisonings are usually rather easily diagnosed. In the first place, the history is one of an acute onset of symptoms after the eating of some toxic or improperly prepared article of diet. In a very short time the patient is seized with nausea, vomiting, intestinal cramps, and frequent, distressing stools. Often there is some tenesmus. There may be prostration of varying degrees, but as a rule no temperature. If fever *does* occur, with such a story, one should keep in mind the possibility of typhoid or dysentery, but the duration and course of the disease soon solves this diagnostic problem, as will blood counts, etc., which are to be discussed later.

Paradoxical diarrhea, due to fecal impaction, is readily diagnosed by finding, upon digital examination, a large, hard, fecal mass.

One of the early symptoms of tabes dorsalis may be loss of anal sphincter control, although relatively few cases are so affected. The stools may or may not be loose, but rectal incontinence occurs. Diagnosis is made by positive blood and spinal fluid Wassermann reactions, a typical colloidal gold curve and the presence of other signs of tabes.

Also as a late symptom of compression of the spinal cord by a cord tumor, one finds loss of anal sphincter control, with or without true diarrhea. Usually this has been preceded long before by other symptoms which have called attention to the underlying pathology. Spinal fluid examination may show signs of subarachnoid block, and

perhaps xanthochromia. And, as a substantiating diagnostic test, X-ray of the spine, after intraspinal lipoidal injection, is of great service.

The infectious diarrheas are more of a diagnostic problem, and an attempt will be made to concisely enumerate their diagnostic differences.

Typhoid and paratyphoid fever are more commonly accompanied by constipation than diarrhea, from seventeen to thirty-six per cent having been given in different series as the incidence of diarrhea in these diseases. The disease usually starts slowly, with headache, anorexia, malaise, and generalized aching, quite similar to other infectious diseases. It may start as a bronchitis. At the onset physical examination shows nothing remarkable, except a slow pulse in relation to the fever, which as a rule quickly rises to 103 degrees or more. With this fever there is a leukopenia. Diagnosis in the first few days is made by the clinical picture, and by obtaining positive typhoid bacillus cultures from the blood. It is not until later in the disease that the spleen becomes palpable, rose spots appear, and the Widal and stool cultures become positive.

The stools of a typhoid diarrhea are gray, thin, and extremely foul, and, on settling, separate into a lower, gray, thick layer, and an upper liquid one composing the so-called "pea soup" stool. One characteristic of these stools is, although there may be occult blood present, it is rarely discernible grossly unless, late in the disease, actual hemorrhage occurs.

Bacillary dysentery has a more acute onset, with griping abdominal pains and a fever of 101 degrees or over, usually not as high as the typhoid temperature. Marked tenesmus occurs, and early in the course of the disease the patient begins to pass frequent stools from five to ten a day or more. There is an early leukocytosis, but not until from six to ten days does a positive agglutination reaction occur.

Diagnosis is made definitely only by culture of the stools, but as a tentative diag-

nosis must be made before the time necessary for this procedure elapses, it is arrived at by examination of the stools. These are most distinctive, and consist of blood, mucus, and pus with very little actual fecal matter. They are pink or red in color, depending upon the proportion of blood. Under the microscope the discharge is seen to consist of a cellular exudate, with many polymorphonuclear leukocytes, red blood cells, and characteristic large mononuclear phagocytic cells.

Amoebic dysentery may have either a sudden or gradual onset, and typical of it is the fact that the diarrhea comes for days or weeks, then clears, only later to recur. There is moderate tenesmus and abdominal pain, but generally not so much fever or prostration as in the other infectious diseases. During the active stages of the disease, however, there are periods of fever, usually not very high, and a leukocytosis.

The stools have considerable fecal matter, and also fresh blood and mucus. The cellular exudate, however, is less than in the bacillary type of dysentery.

Diagnosis is made by sigmoidoscopy, and by the identification of *Entamoeba histolytica* in the stool specimen. Sigmoidoscopy reveals the characteristic ragged ulcerations in the lower rectum and sigmoid, with amoebae demonstrable in the exudate scraped from the lesions.

Nonspecific enterocolitis is probably also infectious in nature, although no specific organisms may be isolated. The onset of the disease is abrupt, with colic and abdominal tenderness, and persistent, severe diarrhea of thin watery stools, with much mucus. Occasionally there is a little blood in the stools, but not much as a general thing. Usually the diarrhea is *preceded* by vomiting, which, however, soon stops. There is little or no fever, but marked prostration and dehydration.

The course of this disease is less prolonged than those previously discussed; it usually terminates in from two to five days. One must exclude the other conditions by the means already described before adop-

tion of the diagnosis of "nonspecific" enterocolitis.

For completeness' sake mention must be made here of cholera, although fortunately the disease is rarely seen in this part of the country. It is a most violent disease, with a sudden onset and an early drastic purging, *after* which persistent vomiting sets in. There is a relatively low temperature, but a rapid pulse, and prostration and dehydration are early and extreme. Indeed, the disease is so overwhelming that few epidemics have been reported in which the mortality has been less than fifty per cent.

Cholera, too, has its characteristic stool, a thin, copious, almost watery discharge, with some mucus and cellular debris, forming the oft-spoken-of "rice-water stool."

Diagnosis is made by culturing the cholera vibrio from the stools, a procedure which, due to their rapid growth, may be done in just a few hours. Agglutination of the cultured organisms by the specific serum will then clinch the diagnosis.

Tuberculous enterocolitis is nearly always seen in patients already ill with other forms of tuberculosis, and is of grave prognostic significance. The lesion is most frequently in the terminal ileum, caecum, and ascending colon, although at times the rectosigmoid is involved.

The symptoms are abdominal pain, nausea, and vomiting, marked systemic intoxication, loss of sleep and rest, and a severe dehydrating, exhausting diarrhea. Later there may be hemorrhage, perforation of the gut, ascites, abscess or bowel obstruction.

Physical examination shows signs of tuberculosis elsewhere. Abdominally, there is tenderness over the caecum and ascending colon, and sometimes masses, or thickened areas of bowel may be made out.

X-ray diagnosis depends upon the stage of the disease. Early there is irritability of the lower eighteen inches of terminal ileum, the caecum, and proximal twelve inches of the colon. Later on, due to heal-

ing, there is marked scarring, with stenosis and deformities. Sometimes this is hard to differentiate from carcinoma, but the location and previous history should prove a strong point in favor of tuberculosis.

The next great division in my classification of the diarrheas is that comprised of inflammations and new growths.

First to be brought to mind are sarcoma and carcinoma, which, for simplicity, will be discussed together, as clinical differentiation is difficult despite the fact that it is known that sarcoma early causes cachexia and metastasizes soon in the course of the disease.

In addition to the diarrhea, which often is a predominant symptom of a malignant growth, in no matter what part of the intestinal tract, one finds the dread trilogy of loss of weight, progressive anemia, and loss of appetite. Cachexia and the toxic depression come later in the course of the disease.

It is not within the scope of this paper to discuss how the differential diagnosis may be made of the positions in which malignancies occur in the intestinal tract, but suffice to say that there are variations in the symptoms. However, with the trilogy already described, the sudden onset of diarrhea, in a previously well person, should prompt one to do a complete search for a neoplasm. No age group is exempt, although naturally the disease is more liable to occur in the middle aged and elderly.

The diarrhea is not particularly distinctive except that occult blood can nearly universally be found in the stools at one time or another, and generally gross blood may be seen. Mucus is often mixed in the stools. And, if the tumor be in the rectum, defecation may be painful, frequent, and difficult.

Physical examination may or may not reveal an abdominal mass, but obviously its absence must not be allowed to exclude carcinoma. If the growth be low in the rectum certainly it should be picked up either upon digital examination or by sigmoidoscopy.

The chief help in diagnosis, however, remains the X-Ray, and its value is tremendous. Although following a barium meal through its course is important, to me the barium enema, in cases of colonic malignancy, is of greater value. Certainly I feel that fluoroscopic examination of a barium enema should be an essential part of gastrointestinal examination, although films are the most reliable diagnostic aid.

The benign tumors cause a great deal of trouble in diagnosis, as the intestinal symptoms are practically the same as in malignant disease, with loose stools, blood, and mucus being passed by rectum.

Diagnosis of polyposis may be made by X-ray, but even if the tumor be low enough to be seen through the sigmoidoscope, it is often impossible to differentiate it from a carcinoma, in which case surgical removal and microscopic study offer our only means of definite diagnosis. Of course, in the benign tumors the "cancer trilogy" is absent, but diagnosis, if possible, should be made before enough time elapses for these symptoms to occur, should the lesion be malignant.

Diverticulosis itself is usually associated with constipation, but diverticulitis is frequently ushered in with diarrhea.

The symptoms are similar to those of appendicitis, except that the local manifestations are usually along the sigmoid, giving rise to "left-sided appendicitis." Pain, tenderness, rigidity of the abdominal muscles, fever, and leukocytosis appear very much as in appendicitis. Such symptoms, localizing on the left, may suggest to one the diagnosis of diverticulitis, but definite diagnosis cannot be made except by X-ray *after* the inflammatory symptoms have subsided.

Appendicitis may be accompanied at the onset by diarrhea, but diagnosis here should not be difficult. The symptoms of appendicitis should be too well appreciated by this group to require enumeration.

Syphilis of the intestines is rare. Diarrhea referable to it is seen occasionally

early in the disease, but occurs more often in the later stages, in cachectic patients. Gummata may form, ulcerate, then heal and cause a stenosis of the intestine. If ulcerating, a bloody diarrhea may result, and diagnosis becomes most difficult. However, in the face of a positive Wassermann, syphilitic enteritis must be kept in mind, and, if X-ray be inconclusive, then it is best to try the patient for a reasonable time under antiluetic therapy.

Two rather baffling conditions will be briefly discussed in this group—namely, terminal ileitis and ulcerative colitis. Their true etiology is undetermined, for certainly Bergen's infectious theory of ulcerative colitis has not been generally substantiated, nor has any one definitely determined the cause of terminal ileitis. The pathology of the two diseases is decidedly similar, save for the location of the process, and many leading investigators have felt that the underlying disease process is the same, merely being manifest in different localities.

Ulcerative colitis is a chronic, recurrent disease, with a tendency toward remission, which usually begins in the rectum and spreads proximally to other portions of the colon. It is debilitating, and characterized by loss of weight and strength, abdominal pain and distress, bloating, a moderate fever in many instances, and frequent evacuations of blood, pus and some mucus, with very little fecal matter.

Sigmoidoscopy shows multiple confluent, shallow, easily bleeding ulcers characteristic of the disease and a granular, hyperemic mucous membrane. Amoebae must always be searched for and excluded as a possible cause.

X-ray shows a "pipe stem" sigmoid and descending colon, or a similar involvement in other portions of the colon affected.

Terminal ileitis is often mistaken for recurrent attacks of appendicitis. The pathology is similar to that just described in ulcerative colitis, but is usually limited to

the distal eighteen inches of the terminal ileum.

There are pain and right lower quadrant cramps, fever, some leukocytosis, and diarrhea. Often these patients are mistakenly operated upon for appendicitis, and at operation the appendix found normal. In a large number of such instances, if the surgeon were to make an incision large enough for exploration, he would find a thickened lower ileum as the true cause of the condition.

Diagnosis may be made by a barium meal, with serial pictures of the small intestine. There may be some dilatation proximal to the lesion, but the affected area itself empties very quickly and is seen to be narrowed and thickened, giving the so-called "string sign."

Pellagra is the only true deficiency disease in which diarrhea occurs. There is nothing characteristic of the stools themselves, but diagnosis may be made by the other well-known signs of pellagra—brawny pigmentation of the exposed skin surfaces, sore tongue, and mental confusion or actual dementia.

Pernicious anemia may possibly be properly included as a deficiency disease, and the success of its diagnosis depends upon the characteristic blood picture, plus an achlorhydria.

Very little need be said of the toxic causes of diarrhea. Caution must be taken to realize that in the diseases previously listed—colds, pneumonia, pyelonephritis, the exanthemata, exophthalmic goiter, and Addison's disease—diarrhea may occur as a distressing complication.

Some of the metallic poisons, mercury, lead, antimony, and arsenic being the chief offenders, may also cause diarrhea. Diagnosis is made by careful inquiry into the possibility of exposure to these metals, or of ingestion. Although chronic lead poisoning is characterized by obstinate constipation, acute poisoning by the ingestion of large doses of lead will cause diarrhea.

And, finally, we come to sprue, which I have found impossible to place under any of the foregoing headings at the present time. In all probability it will eventually be considered as a deficiency disease.

The diagnosis is made by the characteristic symptoms and peculiar stools. The patient, during exacerbations of the disease, is quite sick. The abdomen is distended and tympanitic from excessive fermentation; there is a sore tongue; loss of weight; achylia gastrica and a blood picture much like that of pernicious anemia. The stools are large and bulky, pale, fatty, and of a frothy, foamy consistency, characteristic of no other disease. The diarrhea is more exhausting in its effect than in its frequency.

I have tried to cover, in these few minutes, an extremely large field so that the picture left may, unfortunately, be somewhat confusing. However, it is hoped that by a review of these diseases and the presentation of the diagnostic criteria of most of them, that diagnosis may be made a little easier.

DISCUSSION

DR. K. M. BUCK (Memphis): I feel honored to be called upon to discuss Dr. Manson's paper. He has so ably covered the subject of the diarrheas in the adult that the only thing left for me to talk about is the diarrheas of infants and children, which he purposely omitted.

When I first started the practice of pediatrics about twenty years ago the diarrhea problem during our hot months was a nightmare. The diarrhea "bugaboo," however, due to intelligent prophylaxis, correct diagnosis and proper treatment, is vanishing.

No discussion of diarrhea in children would be complete without stressing the value of prophylaxis. M. C. Spradlin lists seven factors affecting prophylaxis of diarrhea: (1) Prevention of the infant from becoming overheated. (2) Pure, uncontaminated supply of water—best obtained by boiling all water given the infant. (3) Intelligent, conservative diet in accordance with generally accepted schedules. (4) Cautious, gradual introduction of foods new to the infant. (5) Adequate refrigeration to insure against spoilage of the baby's

food. (6) Screening to prevent bacterial contamination by flies. (7) Prevention of parenteral infection by avoiding colds, and then prompt treatment when they occur.

You can readily see that if these seven preventive measures are adhered to that the three main types of diarrhea in infants—fermentative, infectious, and parenteral—can be prevented.

Dr. Owen Wilson of Nashville stresses the point in his book on "The Care and Feeding of Southern Babies" that we cannot feed our Southern babies during our extremely hot months or take such liberties as with those babies residing in the cooler climate.

There are relatively few causes of acute diarrhea in children with blood, pus, and mucus in the stools. Such a group of symptoms should always suggest a bacillary dysentery. Occasionally intussusception and a bleeding Meckel's diverticulum may be confused with dysentery.

Chronic diarrhea in children is rather unusual, but in these cases chronic bacillary dysentery, amoebic dysentery, tuberculous enteritis, and idiopathic chronic ulcerative colitis should be considered.

When pus, blood, and mucus appear in the stool a culture of the stool for diagnostic purposes should be made, not only one, but five or six until the correct diagnosis is concluded.

On my service last June at St. Joseph Hospital, we ran across five cases in which streptococci were so predominant in the stool culture that we gave them sulfanilamide and with what I thought were marvelous recoveries.

In three older children we found amoebic dysentery on examination of the stools when we thought they were some other type of bacillary dysentery.

DR. R. B. WOOD (Knoxville): Mr. Chairman and Gentlemen: Owing to the widespread amount of territory that Dr. Manson had to cover in his paper, may I just briefly summarize for him what he did not get to do.

The history of the diarrheas of the individual case would probably determine for the physician the type of investigation that will have to be done toward arriving at a definite conclusion as to causative factors. The acute diarrheas will not demand a wide physical examination and study that the chronic type will.

In the investigation of the chronic type of diarrhea there is nothing that must be left undone; first, a careful history; second, a complete physical examination, and in addition to the ordinary phys-

ical examination that you and I will do there must be a certain amount of laboratory investigation that may or may not be available to the particular physician. As you have heard, there will be, first, blood count; second, gastric analysis; the determination of the presence of achlorhydria is a very important part. Third, a complete gastrointestinal series is often necessary, particular attention being given to the study of the colon. A proctoscopic examination is essential in many; stool examination, both from the microscopic and cultural characteristic. Lastly, a study of that patient's family history is frequently important, the emotional background, a study of the emotional background of the individual as well as a study of the allergic factors that Dr. Manson mentioned.

Taking into consideration all of these things, if those things are available and the patient's financial condition is such that he can have that much work done, then most of these diarrheas can be accurately classified and thereby adequately treated.

DR. DAUGH W. SMITH (Nashville): The essayist has given us a very comprehensive paper on diarrhea. He failed to include one form of diarrhea which is being overlooked to a great extent at the present time. In fact, in this section it has not been recognized by anyone until within recent years. That is the condition known as lymphopathia venereum or lymphogranuloma inguinale.

In the second stage of this disease when it involves the rectum, rectosigmoid or both, the patient will complain of having frequent stools, difficult stools, and stools containing blood and pus, and in a majority of cases considerable pain at the time of stool.

An examination of the patient exclusive of the rectum may not reveal any findings of importance except emaciation which may be mild or severe. On inspection of the perineum and anal canal one may or may not observe ulcerative lesions. If ulcerations are present they may vary from five-tenths centimeters to three centimeters in diameter with irregular outline and undermining edges. The ulcerations may involve the subcutaneous tissues. One will frequently note marked relaxation of the external sphincter muscle. On inspection of the rectum you will be impressed by the amount of liquid material which will consist of feces, blood, pus, and mucus. After thorough cleansing of the rectum you cannot fail to note the marked edema, diffuse inflammation, and ulcerations of the mucosa. There may be an entire absence of papillae due to the extensive ulcerative process. Also there may be marked thickening of one or more of Houston's

values due to the edema. The Frei test is not always positive in the early cases, therefore, it will be necessary to make a diagnosis from the clinical picture which is presented through the proctoscope.

We are all familiar with the cases of stricture of the rectum which have been diagnosed as due to syphilis. We are also familiar with the fact that these patients fail to respond to antisyphilitic treatment. These patients almost without an exception are patients suffering with lymphopathia venerum in a more advanced stage. This disease should be considered or thought of in any patient who presents himself with a chronic diarrhea.

DR. JOHN B. HASKINS (Chattanooga): A number of men here are practicing in smaller communities than the men who have spoken. You don't have all this X-ray and laboratory facilities to diagnose your patients. Do the best you can to diagnose them, and on the cases where you fail (and your laboratories will oftentimes fail), treat them as though they were amoebic dysentery. I have done that several times and cured my patients.

DR. TIM J. MANSON (closing): I have nothing further to add. I am very grateful to the discussers.

THE JOURNAL

OF THE

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H. H. SHOULDERS, M.D., Editor and Secretary

AUGUST, 1939

THE ISSUE

SHALL PATIENTS AND DOCTORS RETAIN THEIR FREEDOM OF JUDGMENT IN THE MATTER OF MEDICAL CARE, OR SHALL THIS FREEDOM BE SURRENDERED TO SOME GOVERNMENTAL AGENCY?

EDITORIAL

THE MAYO BROTHERS

It is said that when Abraham Lincoln died a member of his cabinet walked from the room and said: "Abraham Lincoln now belongs to the ages."

It is appropriate that we say: "The Mayo brothers now belong to the ages."

It is not enough to say that their lives enriched the age in which they lived. They enriched the age in which they lived in such a fashion that many ages yet to come will be enriched by them.

In our opinion, there are few, if any, men now living who are in position to make an appraisal of their contributions to the profession of medicine and to mankind.

It is a simple matter to give a recital of the honors conferred upon them by medical organizations and other bodies throughout the world. These serve only to call attention to the fact that men everywhere sought to do them honor in the only way they knew how. These expressions fall far short of expressing something of a feeling toward

these men and their work which is entertained by doctors and their patients.

Few men have ever lived who touched the lives of so many people in such intimate fashion. They probably touched more sick people in their own skillful way than any men who ever lived. Indirectly they have touched more through the clinic they built and endowed. They touched the lives of more doctors who in their search for more knowledge came from all over the world to visit the Mayo Clinic and be instructed and inspired by these men. They touched still more through medical literature which they enriched in more ways and to a greater extent probably than any men who have ever lived.

We heard one of these men say, and he likely spoke for them both, that he wished his epitaph to read: "He loved the truth and diligently sought to find it."

It is no wonder then that their passing has brought sadness and a sense of genuine grief and loss to so many people everywhere.

BOOMERANG INDICTMENT

Under the above heading the following editorial appeared in *The Washington Post*, July 27. It is reproduced here by the kind permission of the *Post*.

The medical profession was in no position to discuss fully and frankly all the issues involved in this case until the court had acted. This decision of the court indicates something of the extent to which the courts of the land are as yet the defenders of freedom in the United States:

"The government's indictment of the American Medical Association and ancillary bodies has been turned into an indictment of the Department of Justice. Seldom has that law-enforcement agency suffered a sharper rebuke than that administered by Justice Proctor in District Court yesterday.

"The rebuke is not softened by the general restraint of the court's comment on a silly suit, which Assistant Attorney General Thurman Arnold was most ill advised to initiate. Now, in the face of Justice Proctor's lucid and closely reasoned opinion, the Department of Justice is in an un-

envious quandary. It must either admit that its indictment of the American Medical Association as a combination in restraint of trade was a blunder, or it must take an appeal from a judgment which seems to leave very few footholds for effective criticism.

"Such an appeal, if lost, would only further humiliate the administration and, win or lose, it would continue to exacerbate an issue which can only be solved by friendly cooperation. The American Medical Association and many of its subordinate bodies are now showing an unmistakable tendency to further, rather than impede, well-managed group health projects. The Department of Justice will turn bad into worse if it stubbornly insists on pressing an indictment bound to arouse the strongest professional antagonism.

"That indictment was characterized by Justice Proctor yesterday as a 'highly colored, argumentative discourse.' It was found by him to indulge freely in 'inference, opinion, and conjecture.' The justice regarded it as 'afflicted with vague and uncertain statements.' The indictment, finally, was found lacking in 'the fundamental requirement that a criminal accusation be stated fully, clearly, and with directness and certainty.'

"These are biting criticisms of the government's case, entirely aside from the common-sense opinion, amply backed by legal precedent, that the practice of medicine cannot properly be defined as a 'trade' in the sense intended by the anti-trust laws. And while the criticisms are important for the case in point they are even more so as a demonstration of one of the cardinal and most vital principles of this democracy—the subordination of the government, just as much as that of the individual citizen, to the evenhanded processes of law.

"Justice Proctor's opinion yesterday will not be assessed at its true value unless its criticism of an obviously punitive action against the medical profession is emphasized. Unquestionably members of that profession have their shortcomings. Undoubtedly the attitude of some of them toward group health movements has been

reactionary and socially injurious. But those mistakes are no excuse for an arbitrary attempt to dragoon organized medicine into lowering its cherished standards. To dictate in that manner, as Justice Proctor has ably indicated, the government must have a far better case than it was able to present."

FALSE ADVERTISING

For many years the American Medical Association has been conducting, almost singlehanded, a valiant fight against nostrums and quackery. The only penal power in the hands of the Association is the power of publicity. This publicity, of course, has provoked suits for damages from time to time.

It is fine to note that these suits have been defended with success, which indicates the virtue of the fight. It costs a great deal of money to conduct these defenses however.

The Federal Trade Commission now has been clothed with the authority and charged with the responsibility of enforcing regulations against false and misleading advertising. This applies to nostrums and quacks.

Dr. K. E. Miller, a senior surgeon in the United States Public Health Service, has been detailed to the Federal Trade Commission for the purpose of assisting the commission in its work in this field.

The Secretary-Editor received a letter from Dr. Miller some days ago to the effect that the commission is *not* provided with funds with which fully to compensate physicians for appearance as witnesses at hearings on such cases. He requested information as to whether the State Association would cooperate under the circumstances. Our reply was to the effect that we felt certain that members of the Tennessee State Medical Association would cooperate notwithstanding the inability of the commission to compensate physicians adequately for their services. In our opinion, the profession will make the necessary sacrifice in the public interest.

It is sincerely hoped that members of the Tennessee State Medical Association will give their services freely, for whatever com-

pensation is allowed, when called upon for expert testimony in any case brought by the Federal Trade Commission touching the false advertisement of nostrums and quacks.

The American doctors have carried this whole burden too long already. We now can cooperate under the leadership of a body clothed with the necessary power to stop the false and flagrant advertising of quacks and nostrums.

AN IMPORTANT PRONOUNCEMENT

Senator Robert A. Taft made an address in Washington, D. C., July 11, 1939, on the occasion of the laying of a cornerstone of the Doctors' Building in that city.

In the course of the address he took occasion to refer to the Wagner Bill. Among other things he said: "There is hardly a field in which there has been more sensational and continuous improvement than that of medicine in the United States. That improvement has been due to the brilliant, unselfish, and industrious work of thousands of physicians. It is not their fault that incomes are unequally distributed and that efforts by local government to cover the entire field of health have been restricted by lack of resources. But now I hope they will take an active interest in seeing that the unequalled medical service received by most Americans is extended to the entire population. Their own interest and participation in the program will make it certain that it is *not dominated by half-baked theorists or by those who believe in a totalitarian state, directing the lives and caring for the health of all its citizens through the mechanical and usually careless action of government bureaus.*"

Of particular significance in his reference to two groups: First, half-baked theorists and second those who believe in a totalitarian state.

We have taken occasion many times to point out the fact that there are those who are seeking to establish a totalitarian state in this country, and that the power vested in several government bureaus by the Wagner Bill could be the means of a long step in that direction and thus in the end be very destructive to the life and happiness

of the people of the United States. In fact, the harm that could come from the adoption and administration of that measure would be far greater than any good that could come even if sanely administered.

Two strong bids have been made in recent months for federal control of medicine. One was embodied in a suit brought under the Anti-Trust Act as a result of which it was hoped that control of the policies and activities of American medicine could be obtained. The other bid for power is that which attaches to the provisions in the Wagner Bill which give to agencies and bureaus the power to allocate money as they may see fit with but few scant limitations.

If the proponents of these measures had a genuine affection for the poor unfortunate people on relief rolls, and on WPA rolls, they would be found making provisions for financing the medical care of all these people out of money already appropriated for relief. Large sums are paid to the administrative personnel. A relatively small portion goes to the medical care of these people. They seem to prefer to neglect care now, and then blame their lack of care on our system of medical practice. It should, of course, be blamed on the administration of relief.

UNITED STATES MEDICAL GROUP WINS IN ANTI-TRUST SUIT

An Associated Press news item was carried under the above heading in the daily papers of July 26, giving an account of the decision rendered by Justice Proctor in Washington, D. C., in the case brought against the American Medical Association.

The full decision of Justice Proctor will be found on another page of this issue. It is worthy of careful reading.

The latest news is to the effect that the attorney general has appealed from this decision.

Many things of interest and importance to the medical profession have happened in connection with this suit of which little has been said. Among them are the following:

The power of summons was used in this case to put the American Medical Associa-

tion to every expense and inconvenience possible.

At one time the Association was served with a subpoena ordering an enormous number of records of the Association to be presented in court, notwithstanding the fact that the agents of the Department of Justice had been given liberty to go over any and all records at the headquarters office. The judge at one time made a ruling which relieved, to some extent, the tremendous hardship and inconvenience involved in complying with the summons.

News items have appeared from time to time indicating that those who brought the suit were really attempting to get the American Medical Association to agree to a *consent decree*.

The American Medical Association did not consent to such a decree, even though the fight involved a sacrifice of finance and convenience.

The effect of a consent decree would have been that the prosecution would have the power to write a code of ethical practices for the doctors of America to follow.

It has been pointed out by members of the legal profession that the issue involved in this case, in reality, is whether or not a professional organization can discipline its own members.

If the doctors of America cannot discipline their own members for their failures to comply with proper ethical standards that would, in effect, destroy the ethics of the profession, and finally destroy the profession itself. So, this is another instance in which freedom is involved. It is not merely an instance in which a few generous-hearted individuals are trying to do a good turn for an underprivileged group of people. It was another bid for power of tremendous proportions . . . the power to destroy medicine, as we know it, and the power to set up by decree another system of medical practice.

American medicine has stood and still stands on the side of freedom, even though the stand has involved sacrifice.

It is intimated that the case is not closed—that an appeal may be taken. We are in no position to express an opinion as to

whether this will be done. It is our purpose to state that we will still fight for freedom, not for the freedom of doctors only, but for the freedom of patients mainly.

It seems to us that it is just now becoming apparent to a large number of people that freedom itself was threatened in this case. Much more was involved than really appeared on the surface and in the many news items emanating from certain individuals in Washington.

IN THE DISTRICT COURT OF THE UNITED STATES FOR THE DISTRICT OF COLUMBIA

Holding a Criminal Court

United States of America

VS.

*American Medical Association, et al.,
Defendants*

Criminal No. 63221

For the Defendants—William E. Leahy of Washington, D. C.; Edward M. Burke of Chicago, Illinois; Charles S. Baker of Washington, D. C.; Adrien F. Busick of Washington, D. C.; Seth W. Richardson of Washington, D. C.; John E. Laskey of Washington, D. C.

For the United States—Thurman Arnold, assistant attorney general; John Henry Lewin and Allan Hart, special assistants to the attorney general; Smith Brittingham, special attorney.

OPINION ON DEMURRER TO INDICTMENT

Proctor, District Judge. The indictment charges a conspiracy to restrain trade in the District of Columbia in violation of Section 3 of the Sherman Anti-Trust Act. The defendants are American Medical Association, a national organization of physicians; two of its subordinate bodies, the Medical Society of the District of Columbia and Harris County Medical Society of Houston, Texas; also the Washington Academy of Surgery, not fully identified; and twenty-one individual doctors, all members of the national body, some officers thereof, other members and officers of the Medical Society of the District of Columbia. All defendants have demurred to the indictment. It is very long and only abbreviated refer-

ences will be made to such parts as are deemed necessary to this decision.

Group Health Association, Inc. (hereinafter called association), is alleged to be an association of government employees engaged "in the business of arranging for the provision of medical care and hospitalization to its members and their dependents on a risk of sharing pre-payment basis." Medical care is provided by a staff of salaried practitioners engaged in group practice under a medical director. A clinic is maintained and limited hospital expenses are defrayed for the members and their dependents.

The defendants are alleged to have conspired (1) to restrain the association in its business of arranging for the provision of medical care and hospitalization to its members and their dependents; (2) to restrain such members in obtaining by cooperative efforts, adequate medical care for themselves and their dependents from doctors engaged in group medical practice; (3) to restrain doctors serving on the medical staff of the association in pursuit of their callings; (4) to restrain other doctors in the District of Columbia, including some of the individual defendants, in pursuit of their callings; and (5) to restrain Washington hospitals in the operation of their businesses.

The demurrers raise basic objections to the indictment. Of first importance is the contention that none of the alleged restraints has reference to a trade; that Section 3 comprehends only those occupations in commercial life carried on in the marts of trade activity; therefore, that the medical profession and the businesses of the association and hospitals do not constitute "trade" within the purview of the statute. Against this contention the government's position is that all who are occupied in any activity whereby they supply money's worth for full money payment are engaged in trade; that Section 3 does cover all such activities; therefore, that the practice of medicine and the businesses of the association and hospitals do fall within the scope of the statute.

Is medical practice a trade within the

meaning of Section 3 of the Sherman Act? In my opinion, it is not. I think the matter is settled by the Supreme Court in the case of *Atlantic Cleaners and Dyers vs. United States*, 286 U. S., 427. That case squarely presented the question whether "trade" is used in a narrow sense, as importing "only traffic in the buying, selling or exchanging of commodities," or in a broader sense. It fairly called for a definition of the word. This the court undertook to give. In so doing it declared that the word "trade" was used in Section 3 of the Sherman Act in the general sense attributed to it by Justice Story in the case of *The Schooner Nymph*, 1 Summ., 516; 18 Fed. Cases 506, No. 10,388. The court, intending to give a full and broad meaning, adopted for its own definition of "trade" the language of Justice Story in that early case, quoting therefrom as follows:

"The argument for the claimant insists that 'trade' is here used in its most restrictive sense, and as equivalent to traffic in goods, or buying and selling in commerce or exchange. But I am clearly of opinion that such is not the true sense of the word as used in the thirty-second section. In the first place, the word 'trade' is often and, indeed, generally used in a broader sense, as equivalent to occupation, employment, or business, whether manual or mercantile. Wherever any occupation, employment, or business is carried on for the purpose of profit, or gain, or a livelihood, not in the liberal arts or in the learned professions, it is constantly called a trade. Thus, we constantly speak of the art, mystery, or trade of a housewright, a shipwright, a tailor, a blacksmith, and a shoemaker, though some of these may be, and sometimes are, carried on without buying or selling goods."

Thus, we have this recent controlling decision defining the word trade, and expressly excepting the learned professions of which admittedly the practice of medicine is one. The decision is in harmony with others rendered before and after the *Cleaners and Dyers* case. See *Fed. Trade Comm. vs. Raladam*, 283 U. S., 643; *Graves vs. Minnesota*, 272 U. S., 400; and *Semler*

vs. *Board*, 294 U. S., 608. The restraints alleged against the doctors in specifications three and four of the charge are clearly not within the purview of the statute. I cannot accept the refinements of thought whereby it is argued for the government that the court in quoting Justice Story was not defining "trade," but merely illustrating the narrow and broad concepts of the word. Nor does the decision lend any support to the idea that by enacting Section 3 congress intended to exercise *all* its plenary power over the District of Columbia to prohibit restraints against all business activities of the citizen. The court has simply said that congress meant to deal effectively with the evils resulting from contracts, combinations, and conspiracies in restraint of *trade*—not *all* restraints upon *every* business pursuit, *but only those affecting trade*. Doubtless, in the fullness of its power over the district, congress could have prohibited restraints upon all occupations of the citizen. But there is nothing in the history of the legislation to suggest the need for such a broad reach of power, and clearly it was not intended.

The government has cited many English and American cases dealing with restrictive covenants ancillary to agreements by doctors concerning the sale or conduct of their practice, in which the courts have applied the common law doctrine as to "contracts in restraint of trade." It is argued that these cases have, in a legal sense, drawn medical practice within the orbit of trade, giving to the word a common law meaning to include the professions. From this, it is further argued that at common law restraints upon the practice of medicine were "restraints of trade" and that congress in the Sherman Act used the term in such a sense. But those cases are beside the point. They do not involve any question as to whether medicine is a trade. They accept the universal understanding of it as a profession. Nor do they define "trade." They merely apply a rule of law. At most such cases serve only to illustrate the development of a legal doctrine, having its origin in contracts concerning tradesmen, which becomes known as the doctrine "against re-

straint of trade," and which in course of time was extended and applied to agreements by doctors respecting their professional practice.

The case of *Pratt vs. Medical Association*, 1 K. B., 244, upon which the prosecution places such reliance, is interesting in the similarity of facts there proven and here alleged; yet the legal aspects differ greatly. The suit was a civil action in tort by the plaintiff doctors to recover damages for malicious injury to their means of livelihood. The claim was grounded upon common law principles which hold every man liable in damages for wrongful injury to another's means of livelihood. Combination was not the gist of the action; that circumstance only increased the damage. So here, if the livelihood of group practitioners has been injured by the wrongful acts of the defendants, they too have redress in a civil court. But the charge in the present case is criminal, and to stand must find its sanction, solely in the statute.

Coming now to other specifications of the charge, one, two, and five. Is the association, or are its members or the hospitals, engaged in trade within the meaning of Section 3 of the statute? The association is alleged to be a nonprofit cooperative association of government employees engaged in the business of arranging for the provision of medical care and hospitalization to its members and their dependents. The plan and purpose, it is charged, was to hinder and obstruct the association in procuring and retaining on its staff qualified doctors; to hinder and obstruct its doctors from the privilege of consulting with others and using the facilities of the Washington hospitals; and to hinder and obstruct the association in obtaining access to hospital facilities for its members and its doctors from treating and operating upon their patients in the hospitals. The foregoing references to the Washington hospitals, in the plan set forth, forms the only support for the fifth specification, charging a purpose to restrain the business of operating said hospitals.

In the previous discussion of the *Cleaners and Dyers* case, I have expressed the view

that the court in giving to the word "trade" its full meaning adopted the definition of Justice Story as its own. That definition covers both the narrow and broad understanding of the term. Its most restricted sense comprehended "traffic in goods, or buying and selling in commerce or exchange." Manifestly, neither the association, its members or the hospitals are engaged in that sort of trade. Nor do they, in my opinion, come within the broader class, of *manual or mercantile* pursuits carried on for *profit or gain* without buying or selling goods. The business of the association was not of a manual or mercantile nature. It was a nonprofit cooperative institution whose corporate object was to render service in providing medical and hospital care for its members. The argument for the government that the business of the cleaners and dyers involved merely the sale of service, and yet was held to be a trade, overlooks the fact that the very essence of that service was the skillful use of labor and material, quite equal to the "art, mystery or trade" of a tailor, blacksmith or shoemaker mentioned by Justice Story in illustration of manual and mercantile pursuits falling within the category of trade.

Other federal and state decisions bear out the conception of trade as an occupation or pursuit of a mercantile character. See *Semler vs. Board*, 294 U. S., 608; *Toxaway Hotel Co. vs. Smathers & Company*, 216 U. S., 439; *U. S. Hotel Co. vs. Niles*, 134 Fed., 235; *Harms vs. Cohen*, 279 Fed., 276 (as to musical composers); *People vs. Klaw*, 106 N. Y. S., 341 (as to the theater); *Metropolitan Co. vs. Hammerstein*, 147 N. Y. S., 532 (as to grand opera); *Werth vs. Co.*, 171 S. E., 255 (as to the insurance business); *Whitcomb vs. Reid*, 31 Miss., 569 (as to dentistry); and *State vs. McClellan*, 31 A. L. R., 527 (as to the laundry business). The thesis of government counsel, taken from the opinion in *Brighton College vs. Marriott*, 1 K. B., 312, 316, that "trade" embraces all who habitually "supply money's worth for full money payment," and their contention that the statute should be so broadly construed represents an extreme position which does violence to the

common understanding of "trade," rejects authoritative decisions of our courts, and ignores cardinal rules of statutory construction. Their proposition encompasses all gainful work of the citizen. Can it be supposed that if congress had any such drastic intention it would not have made the purpose clear? Certainly it is not for the courts to stretch an old statute to fit new uses for which it was never intended. *United States vs. Gradwell*, 243 U. S., 476, 488. That would be nothing short of "judicial legislation." The charge that members of the association were restrained (specification 2) is devoid of legal substance. Their efforts to obtain group medical care is expressed through the medium of the association, a corporate entity, distinct from the individual members. Upon no theory can they be treated as engaged in the business of the corporation. Finally, when the indictment is carefully studied in all its parts, each in relation to the others, it is difficult to escape the conclusion that in its substantial realities the scheme set forth *directly* centered upon various forms of restraint to be exerted against physicians in rendering treatment and care to their patients, and that all else is *incidental* to that design. If restraint upon doctors was the only real direct and immediate effect, any indirect effects upon the association or hospitals would not suffice to support the charges as to them. *Standard Oil Co. vs. United States*, 283 U. S., 163, 179; *Nash vs. United States*, 229 U. S., 373.

The defendants have raised objections to the sufficiency of the indictment as a pleading. These go mainly to the claim that many of the allegations dealing with essential and material features of the charge are vague, indefinite, and uncertain. The objections are far too numerous to deal with separately. There is merit to many of them. The indictment is afflicted with vague and uncertain statements. In some instances material facts are altogether lacking. An important instance concerns the charge that one purpose of the conspiracy was to restrain the business of the Washington hospitals. The indictment is barren of any statement of the business methods

used by a single hospital in the letting of its facilities and service to patients. This is fatal to that particular specification, for without such facts it cannot be known whether loss of patients through operation of the scheme would injuriously affect the economic welfare of any hospital. Moreover, the particular plan and purpose of the conspiracy as respects the hospitals is only inferentially stated in that part which deals with the plan and purpose of the scheme as against the association and its doctors. Such a method of stating a material part of the charge does not meet the fundamental requirement that a criminal accusation be stated fully, clearly, and with directness and certainty. *United States vs. Hess*, 124 U. S., 483; *United States vs. Geare*, 54 App. D. C., 30; *McMullen vs. United States*, 68 App. D. C., 302.

A question also arises as to whether the charge is laid against the individual doctors named in the caption. This is due to the pleader's statement that they "will be referred to hereinafter as the individual defendants," whereas thereafter the charge itself is laid only against "the defendants," who the caption indicates include only the several medical societies. It does seem that as to such simple, yet all-important matters, an indictment should be so drafted as to exclude any question whatever.

The inducement, as well as the charging part, setting forth the plan and purpose, and acts done to effectuate the conspiracy, abound in uncertain statements. Inference, opinion, and conjecture are also freely indulged. This is especially so in the inducement, much of which seems unnecessary to a statement of the charge. It is questionable whether some of it would be deemed relevant or competent in proof of the offense. Every indictment should be confined to a clear and dispassionate statement of essential facts. Thus, an accused can better know the exact offense with which he is charged and will not be confused in making his defense. Ordinarily improper matter in the inducement, unnecessary to support the charge, will not vitiate an indictment. It will be treated as surplusage and disregarded. But I doubt

if such treatment would suffice to relieve these defendants of the prejudice likely to arise by an indictment which smacks so much of a highly-colored, argumentative discourse against them. It must be remembered that when a case is finally submitted to a jury for their secret deliberations the indictment goes with them.

The contention is made that the association is operating illegally in the fields of medicine and insurance; that as its activities are unlawful they do not come under the protection of the statute against restraints of trade. The indictment describes the association as a nonprofit, cooperative society, organized under the laws of the District of Columbia, engaged in the business of arranging for the provision of medical care and hospitalization to its members and their dependents on a risk-sharing prepayment basis. This is enough to indicate that it was organized under those sections of the general corporation laws providing for incorporation of societies for benevolent, charitable, educational, literary, musical, scientific or missionary purposes, including societies formed for mutual improvement or promotion of the arts. Thus the view is strengthened that the association was not engaged in trade, for such corporate functions clearly would not fall under that category. However, I do not think it can be said from the bare allegations of the indictment, taken in their entirety, that the association is engaged in medical practice or insurance. Whether or not that is so could better be decided upon the evidence if in a trial it should be deemed pertinent to inquire into the question.

Finally, Section 3 of the Sherman Act, upon which the indictment is founded, has been attacked by defendants as unconstitutional. It is argued that the statute is too vague and uncertain to fix a definite standard of guilt, or inform one accused of violating it of the nature and cause of the accusation. I do not agree with the argument. If I did the circumstances would not justify me declaring the statute invalid, for that would be unnecessary, hence inappro-

priate, in view of my holding that the indictment is bad on other grounds.

The several demurrers to the indictment are sustained. Judgment will be entered accordingly.

JAMES M. PROCTOR,
Justice.

Dated: July 26, 1939.

DEATHS

DR. W. O. BRICKELL

Dr. W. O. Brickell, Friendsville; Lincoln Memorial University, Medical Department, Knoxville, 1895; aged seventy-one; died March 27.

DR. J. T. COOLEY

Dr. J. T. Cooley, Waverly; Vanderbilt University, Medical Department, Nashville, 1889; aged eighty-one; died March 13.

DR. G. W. OLIVER

Dr. G. W. Oliver, Medina; University of Nashville, Medical Department, 1900; aged seventy; died July 9.

DR. W. J. WINTER

Dr. W. J. Winter, Chattanooga; University of Tennessee, College of Medicine, 1903; aged sixty-six; died June 5.

DR. A. W. GROSS

Dr. A. W. Gross, Chattanooga; Chattanooga Medical College, 1903; aged fifty; died May 22.

DR. E. W. HILLSMAN

Dr. E. W. Hillsman, Trezevant; Vanderbilt University, School of Medicine, Nashville, 1900; aged sixty-two; died May 8 of angina pectoris.

DR. J. R. CONYERS

Dr. J. R. Conyers, Gates; Memphis Hospital Medical College, 1888; aged seventy-seven; died July 11.

RESOLUTIONS

DR. GEORGE WELDON OLIVER

The Gibson County Medical Society bows its head in grief at the passing away of Dr. George Weldon Oliver of Medina, Tennessee, who had been in active practice until November, 1938, when his health began to fail, and his death occurred on July 9, 1939. Dr. Oliver was born at Groveland, Tennessee, May 19, 1869. He graduated from the University of Nashville, March 30, 1900. He practiced one and a half years at Groveland and Columbia, Tennessee, following graduation. Then he moved to Medina, Tennessee, where he continued in active practice until just a short time before his death. He was one of the most faithful members of the Gibson County Medical Society from the year 1902, when he moved to this county, until July 9, 1939, when death overtook him, never missing a meeting of the Gibson County Medical Society if it was possible to get there. He was a deacon in his church and was a typical Christian gentleman and highly respected by every one who knew him.

Be It Resolved, That the Gibson County Medical Society has lost one of its oldest and most faithful members and one who was always willing and ready to do anything for the best interests of the society and to help out his fellow practitioner.

Be It Further Resolved, That a copy of these resolutions be spread on the minutes of our society, and a copy sent to his family, and also to the JOURNAL OF THE TENNESSEE STATE MEDICAL ASSOCIATION.

B. T. BENNETT, SR.,
H. P. CLEMMER,

Committee.

ALFRED W. GROSS, M.D.

This association has lost one of its most faithful members in the death of Dr. A. W. Gross, who died May 22, 1939.

Dr. Gross was a graduate of the Medical College of the University of Chattanooga, class of 1903.

Dr. Gross was always deeply interested in

the proceedings of this society, rarely missing a meeting. A cultured, modest man, his delightful qualities shone in his friendships. A gentleman as well as a physician has gone out.

Therefore, Be it Resolved, That we have lost in him a loyal and valued friend and associate.

Be It Further Resolved, That we extend to his bereaved wife and children our sincere sympathy.

Be It Further Resolved, That a copy of this resolution be spread upon the minutes, a copy sent to the family of the deceased, and a copy sent to the State Society.

R. M. COLMORE,
CLEO CHASTAIN,
L. P. BROOKS,
FRED B. STAPP,
J. A. GENTRY,
J. B. STEELE, *Chairman*.

Approved June 15, 1939.

S. H. LONG, *President*.

J. MARSH FRERE, *Secretary*.

WILBURN JACKSON WINTER, M.D.

Dr. Wilburn Jackson Winter passed away on June 5, 1939.

Dr. Winter was born in Fannin County, Texas, and received his early education at Lebanon, Tennessee. His medical education was obtained at the University of Tennessee, where he was graduated with the class of 1903. His internship was served at Bellevue and Riverside Hospitals in New York and the Augustana Hospital in Chicago. Dr. Winter practiced medicine in Chattanooga twenty-seven years. He was a member of the Chattanooga and Hamilton County Medical Society and of the American Medical Association.

Therefore Be It Resolved, That we have lost in Dr. Winter a loyal and valued friend and associate.

Be It Further Resolved, That we extend to his bereaved wife and son our sincere sympathy.

Be It Further Resolved, That a copy of these resolutions be spread upon the min-

utes, a copy sent to the family of the deceased, and a copy sent to the State Society.

R. M. COLMORE,
CLEO CHASTAIN,
L. P. BROOKS,
FRED B. STAPP,
J. A. GENTRY,
J. B. STEELE, *Chairman*.

Approved June 15, 1939.

S. H. LONG, *President*.

J. MARSH FRERE, *Secretary*.

NEWS NOTES AND COMMENTS

The Committee on Postgraduate Instruction in Pediatrics made inquiry by questionnaire as to the reaction of the profession to the course in pediatrics now in progress. Some of the response is expressed by tabulation, but the remarks of many physicians who have had the course give a much better understanding of the way doctors who have had the course actually feel about it. They are as follows:

1. Were the lectures?
 - a. Excellent—29.
 - b. Good—17.
 - c. Fair.
 - d. Passable.
 - e. Poor—1.
2. Were the clinics?
 - a. Practical—45.
 - b. Nonpractical—one answered "did not have any"; one had no answer.
3. Was the course worth your time, your effort and fee?—yes, 46; no, 1.
4. What suggestion can you offer for future courses with regard to:
 - (a) Didactic Lectures
 - (b) Demonstrations
 - (c) Clinics
 - (d) Private Consultation
 - (e) Lay Talks
5. Would you be interested in a ten weeks' course in internal medicine?—yes, 46; no, 1.
6. Would you probably enroll?—yes, 44; no, 2; (?) 1.

Some Comments from Physicians About the Pediatrics Course

"Very well pleased with instruction."—Dr. O.

"These courses bring the university to the practitioner and it is possible to have able authorities. To doubt the value of constant training is to go backward."—Dr. R.

"The pediatrics course was very practical and instructive."—Dr. H.

"I find these lectures very helpful but believe more clinics and demonstrations should be arranged by the attending doctors."—Dr. T.

"This course was fine and Dr. Thompson went right to the point, held a good clinic, cooperated in every way. Gladly came night or day when called. Dr. Thompson absolutely saved one desperately sick child for me. Dr. Thompson cannot be improved upon."—Dr. W.

"Enjoyed the lectures very much. They have been very helpful."—Dr. V.

"The two courses in the immediate past have proven very satisfactory in every respect."—Dr. B.

"It was a great pleasure to me to be able to attend both courses given by such outstanding men as Dr. Whitacre and Dr. Thompson."—Dr. S.

"Mr. Kibler and each of the lecturers have been faithful in making these courses a success. I feel I have been benefited thereby and wish to join any other courses of the same type."—Dr. W.

"The lectures and clinics were splendid. I feel that I gained lots of new ideas from Dr. Thompson's lectures and clinics."—Dr. K.

"The course we had in obstetrics two years ago was very fine, so is the pediatrics. Especially good for us old men who are not going away to college for courses."—Dr. S.

"Dr. Thompson was very cooperative. I regret that I was not able to use him more; he was available, but I was either tied up or out of town except at lecture time."—Dr. P.

"I feel that the present plan of presenting the courses is quite satisfactory."—Dr. P.

"I have enjoyed the past two courses

given by the committee and feel that they have been very helpful in many ways."—Dr. G.

"The course given lately by Willis H. Thompson was unusually good and received by all to our entire satisfaction."—Dr. B.

"I consider Dr. Thompson splendidly qualified to carry on the course in pediatrics and that both the course in obstetrics by Dr. Whitacre and that by Dr. Thompson worth much more than the cost and the time spent."—Dr. G.

"I think every doctor that fails to take these courses without an ironclad excuse is doing the people he works for an injustice."—Dr. B.

"Dr. Thompson's lectures were very practical. He presented his subjects well and did a good job of demonstrating clinical material."—Dr. C.

"I don't know of any suggestions to make, but am anxious for more of the good work."—Dr. P.

WOMAN'S AUXILIARY

President.....Mrs. Matt Murfree
Murfreesboro

President-elect.....Mrs. W. T. Braun
Memphis

Press and Publicity.....Mrs. R. Z. Linney
Madison

We wish to express again our appreciation to Dr. H. H. Shoulders, editor of the JOURNAL, for the space allotted to the publication of articles and news pertaining to the Woman's Auxiliary. We appreciate the helpful and cordial cooperation we receive from the officers of the State Medical Society. By reading the State Medical Journal we can keep ourselves informed as to the affairs of the medical profession. I appeal to each county auxiliary to make certain that your state press and publicity chairman promptly receive a full report of the activities of your county in order that we may use most effectively the space allotted to auxiliary news in the JOURNAL.

RUTHERFORD AND CANNON COUNTIES

Rutherford and Cannon Counties held the annual doctors' day picnic on June 17.

It was a very nice affair held at Woodbury in Cannon County at the home of Dr. J. F. Adams. About forty-five or fifty attended the picnic festivities.

Mrs. Matt Murfree, state president of the Woman's Auxiliary, was in Nashville recently completing plans for her Executive State Board meeting in Nashville the last Friday in September, which is on the twenty-ninth, at the Belle Meade Country Club.

IN MEMORIAM

Dr. Perry Bromberg

The Woman's Auxiliary to Davidson County Medical Society suffered a keen loss in the death of Dr. Perry Bromberg on July 4. He served as chairman of the Auxiliary Advisory Board for two years before his death. He also served as state chairman of the Advisory Board and was appointed again for another year. We feel we have lost a true friend, and one who was always willing to listen to our joys and struggles and not only to listen, but ready and willing to act in a helpful manner. Dr. Bromberg was widely known for his civic work and acts of charity. He was a great inspiration to us and his guidance will be sorely missed.

Dr. Oliver W. Hill, Sr.

All auxiliary friends throughout the state join Knox County auxiliary members in surrounding Mrs. Oliver Hill with their love and affection during this time of her deep sorrow and recent bereavement. It is our wish that we could personally be of some comfort to Mrs. Hill and family.

WHEN THE WHITE SHIP SAILS

The morning star, the rosy-tinted dawn;
And then for him the white ship drew to shore—

None saw the sails, or heard the sound of oars,

But while we watched with heartstrings tensely drawn,

Faith's valiant hero bravely ventured on
The silent craft where stood the mystic rower.

The homeward turning tides took up and bore

The ship away, like some full-breasted swan,

Along a sparkling lane of dazzling light
To that fair port, beyond the rising sun,
Which knows not pain, or death, or grievous night.

Within the golden gates, the voyage done,
The radiant guest is robed in shining white,
His day of endless rapture has begun.

MEDICAL SOCIETIES

Greene County:

The Greene County Medical Society met Tuesday, August 1.

Dr. R. S. Cowles read a paper on "Tularemia."

Dr. R. H. Miller, associate professor of anatomy at the University of Tennessee, School of Medicine, Memphis, gave an interesting talk on "Some Points on the Mechanics of the Body Especially the Lower Extremity."

The following were present: Drs. L. E. Dyer, M. A. Blanton, R. S. Cowles, L. E. Coolidge, R. B. Gibson, J. E. Kite, N. H. Crews, H. W. Fox, J. A. Brabson, R. H. Miller, and I. E. Phillips.

(Signed) I. E. PHILLIPS, *Secy.*

Hardin, Lawrence, Lewis, Perry, Wayne Counties:

The Five-County Medical Society met at Natural Bridge on July 25.

The following papers were read:

"The Commoner Skin Diseases," by Dr. Howard King; "Traumatic Injury of the Liver with Report of a Case," by Dr. J. H. Tilley; "Undulant Fever," by Dr. David W. Hiley.

A number of visitors were present.

The next meeting will be held at Waynesboro on August 29.

Robertson County:

Dr. and Mrs. B. B. Sory entertained the Robertson County Medical Society at an old-

fashioned barbecue on the evening of July 18 at their home in Cedar Hill.

Dr. J. E. Wilkison, Springfield, president, presided over the meeting.

Dr. A. R. Kempf, Springfield, read a paper on "Urogenital Diseases."

Those present were: Drs. J. E. Wilkison, R. D. Moore, R. L. Mathews, W. B. Dye, W. W. Porter, W. S. Rude, J. S. Freeman, J. R. Connell, W. P. Stone, A. R. Kempf, W. W. Winters, C. M. Banks, W. L. Gossett, and W. F. Fyke.

Visitors were: Dr. B. B. Sory, Jr., West Palm Beach, Florida; Dr. Curtis Sory, Fort Lauderdale, Florida; Dr. T. M. McDuffee, Manatee, Florida; Dr. E. M. Frey and Dr. John Ross, Guthrie, Kentucky; Dr. Frank Sory, Adams; Dr. J. H. Padfield and W. M. McNeeley, Orlinda.

OTHER MEDICAL SOCIETIES

Coming Meetings

American Medical Association, New York, June 10-14, 1940. Dr. Olin West, 535 North Dearborn Street, Chicago, Illinois, secretary.

American Association of Obstetricians, Gynecologists, and Abdominal Surgeons, Hot Springs, Virginia, September 7-9. Dr. James R. Bloss, 418 Eleventh Street, Huntington, West Virginia, secretary.

American Association of Railway Surgeons, Chicago, September 11-13. Dr. Daniel B. Moss, 547 West Jackson Boulevard, Chicago, secretary.

American Congress of Physical Therapy, New York, September 5-8. Dr. Richard Kovacs, 2 East Eighty-Eighth Street, New York, secretary.

American Roentgen Ray Society, Chicago, September 19-22. Dr. Carleton B. Peirce, Royal Victoria Hospital, Montreal, Canada, secretary.

Kentucky State Medical Association, Bowling Green, September 11-14. Dr. Arthur T. McCormack, 620 South Third Street, Louisville, secretary.

Southern Medical Association, Memphis, November 21-24. Mr. C. T. Loran, Empire Building, Birmingham, Alabama, secretary.

Tennessee State Medical Association, Chattanooga, April 9-11, 1940. Dr. H. H. Shoulders, 508 Doctors Building, Nashville, secretary.

Examinations

American Board of Obstetrics and Gynecology, January 6, 1940. Dr. Paul Titus, 1015 Highland Building, Pittsburgh, Pennsylvania, secretary.

ABSTRACTS OF CURRENT LITERATURE

ANESTHESIA

By HUGH BARR, M.D.
Medical Arts Building, Nashville

Clinical Evaluation of Some Nonvolatile Anesthetic Drugs. L. F. Sise. *New England Journal of Medicine*, September 8, 1938.

This is a discussion of the action and effects of certain nonvolatile anesthetics such as avertin, evipal, pentothal, and paraldehyde. The discussion also embraces the long-acting spinal anesthetics, nupercain and pontocain.

There are certain difficulties and dangers encountered in the administration of avertin rectally and the barbiturates intravenously. The dosage is very difficult to estimate and after administration to control. Too large a dose or too rapid absorption produces anoxaemia from respiratory depression and perhaps a fatality, while too small a dose or too slow absorption produces inadequate anesthesia.

As these drugs are eliminated through the liver and kidneys and have a tendency to produce anoxaemia, they should not be used in subjects with kidney or liver disease or with respiratory difficulties. However under expert supervision and in certain cases they may be used with safety and are of great value.

Pontocain and nupercain are much more powerful than novocain. Nupercain is more toxic than cocain. The dose of these drugs when used is much smaller than that of novocain, but their effect lasts longer. In spinal anesthesia the general toxic effect is practically nil and the only symptoms are due to nerve paralysis. They are just as safe as novocain and due to their longer action are to be preferred.

DERMATOLOGY

By E. E. BROWN, M.D.
Doctors Building, Nashville

Seasonal Atopic Dermatitis, the Role of Inhalant Atopens. Samuel M. Feinberg, M.D., Associate Professor of Medicine, Northwestern University Medical School, Chicago. Archives of Dermatology and Syphilology, August, 1939.

In a group of fourteen cases it has been shown that the seasonal aggravation of atopic dermatitis was due to the inhalation of seasonal atopens, pollen, and fungi. The facts which warrant such a conclusion are: the history of seasonal aggravation; the positive reactions to cutaneous tests with seasonal air-borne allergens and the demonstration of atopic reagins; the correlation of symptoms with the air content of pollen and fungus spores, as determined by observation; the occasional flare-up of the dermatitis following the injection of pollen or fungus extracts and the greatly improved results following specific desensitization. The inhalation of fungus spores is proposed as a new factor in the causation of atopic dermatitis. The group of cases described in this paper is reported chiefly because the seasonal nature of the symptoms made the correlation of cause and effect striking and conclusive. It is suggested that inhalation of air-borne atopens is probably a common source of atopic dermatitis.

INTERNAL MEDICINE

By R. B. WOOD, M.D.
By D. R. THOMAS, M.D.
Medical Arts Building, Knoxville

The Control of Gastric Hyperacidity by Magnesium Trisilicate. C. Graham Reid, M.D., Charlotte, North Carolina. American Journal of Digestive Diseases, June, 1939.

In this investigation thirty-six ambulatory duodenal ulcer cases were used. In twenty-four cases magnesium trisilicate was studied for effect on fasting conditions; in twelve, its effect under conditions of frequent feedings.

Under fasting conditions the total fasting content of the stomach was withdrawn and titration done. Then two grams of magnesium trisilicate in twenty-five cubic centimeters of water was given by mouth and samples of the stomach content aspirated every fifteen minutes for four hours, each sample being titrated immediately after aspiration.

Subsequently this was repeated with two grams of an alkaline mixture (sodium bicarbonate two parts, calcium carbonate two parts, and heavy magnesium oxide one part).

Results here showed a moderate reduction of gastric acidity within fifteen minutes after the administration of the magnesium trisilicate, a maximal reduction in thirty minutes, and this was

maintained for one hour—following this there was a gradual return to original values in three hours.

The alkaline mixture resulted in a maximal reduction of acidity in fifteen minutes and original values returned in one and one-half hours.

Effects of both the magnesium trisilicate and the alkaline mixture were determined with alternate administration of food—simulating as closely as possible the usual feeding routine.

Here neither gave as marked a reduction in the acidity. There was a primary reduction after the administration of food and the secondary reduction following the magnesium trisilicate or the alkaline mixture was less marked. With the magnesium trisilicate the reduction was maintained for about two hours. With the alkaline mixture the secondary acid reduction was not constant and when it occurred was not maintained until the withdrawal of the next specimen—one hour later.

Conclusions are that magnesium trisilicate is a satisfactory substitute for commonly used alkalies to control gastric hyperacidity, being less prompt, but more prolonged in its effect.

Advantages of magnesium trisilicate over the alkalies are its prolonged action, absence of effect on the bowels, and its nonabsorbability, the latter precluding the possibility of an alkalosis.

OBSTETRICS AND GYNECOLOGY

By HAMILTON V. GAYDEN, M.D.
Suite 234 Doctors Building, Nashville

Management of Breech Delivery in Multiparas. Thomas R. Goethals. American Journal of Obstetrics and Gynecology, July, 1939, Vol. 38, p. 105.

The author reviews 580 breech cases, of which 560 delivered by the pelvic route and twenty by abdominal Caesarean section.

The cases discussed in this survey have been limited to normal multiparas at or near term with infants in utero, all weighing six pounds or over. The management of breech delivery in the multipara by abdominal Caesarean section is especially to be considered in cases where previous delivery has resulted fatally for the infant, and in cases in which previous delivery has been accomplished by Caesarean. Both of these obstetrically antecedent events suggest fetopelvic disproportion. In selected cases, where the pelvis is clinically contracted or when the infant is deemed overlarge, X-ray measurements may suggest abdominal delivery, even though the patient has previously borne one or more normal children. In any case in which abdominal delivery is contemplated, it is a wise policy to use the X-ray, not only to confirm and control the size of the infant, but also to detect gross skeletal abnormalities undiscovered by clinical examination.

The experience at the Boston Lying-In Hospital over a period of fifty years shows mortality rates with multiparous breech delivery closely simulating

those obtained in primiparas. In both groups the study of mortality rates and analysis of stillbirths and neonatal deaths which have occurred give strong support to the conclusion that routine extraction of the infant under full surgical anesthesia after full dilation of the os in relation to the breech has been attained is safer for the infant than the policy of normal or assisted delivery.

OPHTHALMOLOGY

By ROBERT J. WARNER, M.D.
Doctors Building, Nashville

Ectopia Lentis: A Pathologic and Clinical Study. C. C. Clarke. American Journal of Ophthalmology, July, 1939.

This article is based on a review of the literature, a study of seventy-one globes, and an analysis of thirty-one case histories. The following anatomic classification is proposed to clarify the clinical study of this condition: grade 1, simple ectopia lentis; grade 2, ectopia lentis combined with anomalies of ocular dimension; grade 3, ectopia lentis combined with anomalies of ocular structure; grade 4, ectopia lentis combined with anomalies of constitution, that is, aberrancies of body development. The pathogenesis of ectopia lentis is not understood because of many conflicting theories of etiology. Amblyopia is frequently present and there is a high incidence of strabismus. Phakic refraction nearly always shows myopia. With aphakic refraction, relative myopia is less frequent, but more common than hyperopia. This would indicate that a good deal of myopia in cases of ectopia lentis is lenticular rather than axial. Loop extraction following a wide preliminary iridectomy offers the best solution to this problem, as the ultimate prognosis for untreated eyes is bad. Dissections and operations on the iris are usually unsatisfactory.

ROENTGENOLOGY

By FRANKLIN B. HOGART, M.D.
Medical Arts Building, Chattanooga

The Treatment of Acute Pneumonias with Roentgen Rays. E. V. Powell. Am. J. R. and R. T., Vol. 41, No. 3, p. 404, March, 1939.

Brief review of experience of author's treatment of pneumonia which started in 1933. Report on 105 cases of lobar pneumonia and thirty cases of bronchopneumonia treated by X-ray with a mortality of five per cent in lobar pneumonia and thirteen per cent in bronchopneumonia. These results were compared to a mortality rate of twenty-nine per cent for lobar and thirty per cent for bronchopneumonia in the King's Daughters Clinic, where this work was done. In addition the crisis has been brought on as a rule promptly after X-ray treat-

ment and the patients have been relieved of their distress and discomfort within a few hours.

The cases received in addition to the X-ray treatment the usual routine treatment, but as the period of the report covers the time from 1933 to 1937 serum was not used. No cases of types two or three have died.

TECHNIQUE

Two hundred fifty to 350 r are given over the affected area, using 135 kilovolts, three millimeters aluminum, and forty centimeters distance. Extreme leukopenia that sometimes occurs late in bronchopneumonia is the only contraindication for use of X-ray therapy in pneumonia.

If the temperature has not returned to normal in thirty-six hours, 200 r are given over the opposite skin area.

SUMMARY

In addition to the usual therapeutic routine, 105 cases of lobar pneumonia have been given roentgen treatment. Of these only five died. Thirty cases of bronchopneumonia have been given roentgen treatment and of these four died. Even if the mortality had not been reduced so very sharply, the use of roentgen therapy in these cases would be justified by the relief of anxiety and discomfort experienced by the patients. All type II and III pneumonias treated with roentgen rays have recovered.

SURGERY—GENERAL AND ABDOMINAL

By HATTLE MALONE, II, M.D.
1400 Monroe Avenue, Memphis

Anal Fissure. Herbert T. Hayes, M.D., and Harry B. Burr, M.D. Southern Medical Journal, August, 1939.

This very common condition is defined as an ulcer situated at the outer margin of the anus, appearing as a recent tear or in the chronic type. The appearance of a fissure varies with its duration. If recent the edges are inverted thin and pliable and the base is raw. The chronic form has thickened edges which may be undermined and the base is gray, moist, and usually rests on the sphincter muscle. This type is exquisitely sensitive. The microscopic appearance is similar to that of ulcers anywhere.

Conditions commonly associated with fissures are chief factors in their failure to heal. Anal polyps, sentinel pile, spasm, and hypertrophy of the external sphincter muscle are examples. The chronicity of these lesions is prolonged by motion and trauma from bowel movements which also causes reinfection of the base. Nearly all fissures are found in the posterior commissure of the anal canal. Predisposing causes of this condition include, first, the anatomy of the anal canal which has a lining of thin epithelium, is congenitally narrow, and is stretched with each stool, and the concavity of the sacrum which directs the greatest force toward the posterior commissure. Other predisposing

caused are constitutional diseases such as diabetes, tuberculosis, and syphilis and local lesions as hemorrhoids, polyps, hypertrophied papillae, infected crypts, and condylomata. The correct cause of a fissure is trauma resulting from constipation, diarrhea, foreign bodies, digital examinations, anorectal operations, accidental injuries, and others.

The symptoms are a burning pain immediately after defecation, constipation, referred pains to back and legs, and bleeding which is slight. The diagnosis is made from the history of such symptoms and the physical examination which reveals the pathology.

Successful treatment depends upon two factors—sphincteric rest and proper drainage. A detailed description of the muscles of the anal canal is presented for a better understanding of the injection of local anesthetics around the anus and rectum. Prophylaxis or prevention of fissures is obtained by relieving constipation by the liberal use of vegetables and fruits. The patient should be told the quantity of these foods he should eat. Mineral oil is helpful in producing a soft bulky stool, but this should not be given over a long period of time. Nonsurgical measures such as using mineral oil-agar mixtures, analgesic ointments, and hot sitz baths are applicable only in acute fissures. If much sphincter spasm is present it is desirable to inject a local anesthetic to relax the sphincter muscles. The technic of this procedure is described. For chronic fissures some sort of surgical procedure must be done that puts the muscle at rest and provides drainage. Depending on the conditions found one may do a dilatation, excision, incision, or sphincterotomy. Dilatation must not be done unless the muscle is elastic and it has the disadvantage of providing no prophylaxis against recurrence. Excision alone is seldom practiced. Incision of the fissure down through the muscle and perianal structures, or posterior proctotomy, is the safest and most certain way to cure the patient. In all surgical procedures for fissure other existing pathologic conditions such as sentinel pile, polyps, and hemorrhoids must be first corrected. The author's technic of this procedure and that of sphincterotomy is described.

UROLOGY

By TOM R. HARRY, M.D., F.A.C.S.

By G. A. WILLIAMSON, JR., M.D.
Medical Building, Knoxville

Diagnosis of Perinephric Abscess. Gordon S. Foulds.
Journal of Urology, July, 1939.

One of the most difficult things with which the urologist has to contend is the diagnosis of a perinephritic abscess; consequently an early diagnosis is rarely made.

The record of forty-nine cases were studied in making this report, twenty-eight males and twenty-one females. There were twenty-seven cases of primary or metastatic abscess, sixteen secondary to kidney infection, and six related to disease of other adjacent organs.

The disease occurs at all ages, the primary group being more common below middle age, and the secondary group above middle age.

The symptoms vary greatly. Pain was common in all, either severe or of a dull aching character. Fever, from 99.8 to 104.8 Fahrenheit, sweating, and weakness were the next more frequent symptoms. Urinary symptoms and findings were uncommon in the primary group, but usually marked in the secondary group. A history of superficial infection was usually obtained in the primary cases. The white blood count ranged from 20,000 to 34,000. On examination a point of tenderness in the costo-vertebral angle was present in thirty-eight of the cases, twenty-three had a mass in the loin, rigidity of the lumbar muscle was noted in fourteen.

X-ray examination showing obliteration of the psoas shadow and curvature of the spine with the concavity toward the affected side occurred in seventy per cent. Elevation of the diaphragm and lack of normal mobility of the kidney on the affected side was noted in several cases.

The author points out another sign which may help in making an early diagnosis. When the patient bends the body laterally in the opposite direction from the affected side, the pain is increased. This was present in each of ten patients seen since the sign was first noted.

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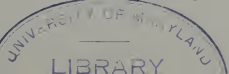
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 Dr. H. B. Everett, Memphis; West Tennessee.

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ACUTE ABDOMINAL EMERGENCIES WITH REPORT OF SOME INTERESTING CASES*

JOHN B. HASKINS, M.D., Chattanooga

A SUBJECT that has had many volumes written on it cannot be gone into exhaustively in so short a period. I am admitting many errors in diagnoses, by which I have, I hope, profited much, and if this paper will elicit free discussion I trust it will be worth much both to the profession and to the laity.

Acute abdominal emergencies include many acute conditions arising within the abdomen urgently demanding surgery for their relief. The symptoms are of such similarity that preoperative clinical diagnosis becomes a matter of difficulty and at times accurate distinction between them is impossible. The common indication in such lesions is surgical relief; it is apparent that our first duty in a given case is to decide for or against its employment. The rapidity with which the disastrous changes in the abdomen develop makes it imperative that this decision be made at a time that gives the patient the greatest chance for recovery.

More lives will be saved if an occasional diagnostic error is made by doing an unnecessary laparotomy than by waiting, trying to make a correct diagnosis, letting the pathological lesion get beyond surgical control.

A survey of hospital statistics reveals that appendicitis is responsible for fifty to

sixty per cent of acute abdomens. We have in round numbers 600,000 cases per year in the United States with a daily death rate of sixty-five. Needless to say that high a mortality is a national disgrace. Typical cases of this disease seen early present no problem either in diagnosis or treatment. The fact that the mortality from appendicitis has shown a yearly increase from 11,500 in 1920 to more than 23,725 at the present time is conclusive evidence of the fact that patients afflicted with it do not come under observation or surgical treatment at a time when its relief is a simple procedure. Several factors are responsible for this delay, the most important one being the ignorance of the laity regarding the significance of abdominal pain. Only when the public has been educated in this regard and, as well, concerning the dangers of self-medication, particularly purgation, in the presence of abdominal pain, can there be hope of avoiding the problems which delay in the institution of appropriate treatment entails. Hippocrates wrote four centuries B.C. that it is criminal to give purgatives to patients having acute abdominal pain. It is pitiful to think of the stupidity of man to take all these centuries to teach five per cent of the laity and ninety-five per cent of the profession Hippocrates' correct observation. A second factor is to be found in the delayed recognition of atypical cases. By embryological error the appendix may

*Read before the Tennessee State Medical Association, Jackson, April 11, 12, 13, 1939.

be found in any part of the abdomen except the upper left quadrant. Of course, the atypical situations of the appendix becloud the diagnosis in the event of its inflammation. One's attention is quite naturally directed to the organs normally found in the respective localities mentioned, and this often leads to delay during which gangrene, perforation or infection by contiguity may occur. Another cause of delayed recognition is presented by the deviation in symptoms when the situation of the appendix is retrocecal, particularly when there is an absence of the mesoappendix, the organ being practically extraperitoneal; the absence of localized tenderness and rigidity may lead to delay, while the sequence of pathological events in the appendix continues unchanged. The sequence of symptoms, pain, nausea, vomiting, fever, and leukocytosis should put one on his guard and direct suspicion to the atypically situated appendix when such symptoms cannot be definitely ascribed to an organ normally located at their point of origin. Recognition of appendicitis during infancy and childhood is not always an easy matter; the symptoms are the same, but the child does not cooperate, the blood count shows wide fluctuations and until about the fourth year constantly shows a relative lymphocytosis; the disease here, as in the opposite extreme of life, is prone to run a rapidly destructive course. Muscle spasm is elicited often with difficulty, while tenderness can be frequently best appreciated upon rectal palpation. When, from whatever cause, delay has allowed the development of gangrene, spreading peritonitis or diffuse suppurative peritonitis to develop, problems are presented upon which there is a wide diversity of opinion. Time forbids an analysis of the arguments, results, and statistics of the proponents of the immediate and the delayed operation, the type of operation, and the question of drainage.

CASE REPORT No. 1

I recently had two service cases that will illustrate the difficulty we occasionally have in diagnosing acute appendicitis.

The first case was a young white girl sev-

enteen years old who was admitted with all the classical symptoms of acute appendicitis except her fever was 103 degrees, which, of course, is higher than the average. Her respiration was normal. She was operated, but the appendix, macroscopically, was normal. No pathological condition could be found. Her temperature remained high and forty-eight hours later the X-ray revealed a left basal pneumonia.

CASE REPORT No. 2

Case No. 2 was a strong, healthy colored man, thirty-five years of age, chauffeur by profession, who was admitted forty-odd hours after onset of abdominal pain around his umbilicus. On admission he was having fecal vomiting, a silent abdomen, a normal white cell and poly count and normal temperature. X-ray of abdomen in upright position showed different fluid levels, so a diagnosis of obstruction was made. The abdomen was opened. He had suppurative peritonitis, due to gangrenous ruptured appendix, the location of the appendix being in the mid-line, directly under the umbilicus and behind the ileum and mesentery.

CASE REPORT No. 3

A colored man, WPA worker, age forty-one years, fell out on the job at 10:30 A.M. and was sent to the hospital. I saw him in the emergency room at noon. He gave a history of having very severe pain in the lower abdomen, which was very agonizing. Due to the fact that he could not void a urologist was asked to see him. The urologist attempted to catheterize, but was unable to do so, due to an impervious stricture. A rectal gave evidence of pathology in that area, so the urologist suspected a leaking diverticulum of the bladder, and did a suprapubic cystotomy, finding no intravesical pathology except trabeculation. The house surgeon opened the abdomen and found very extensive lower abdominal suppurative peritonitis due to a rupture of a periurethral abscess into the cul-de-sac.

Intestinal obstruction continues to cause a mortality of thirty to fifty per cent, which is a serious indictment of both diagnostic ability and surgical initiative. It is com-

mon knowledge that while acute intestinal obstruction carries an inevitable mortality, the greater proportion of it may be justly attributed to delay in recognition and to tardiness in the institution of appropriate treatment. The most important single factor is the element of time; a second one of great moment is offered by the site and character of the obstruction whether high or low, the former pursuing a more rapidly fatal course than the latter. The precise significance of these two factors becomes apparent with a full realization of the sequence of events common to all types of acute intestinal obstruction, namely, mechanical obstruction of the intestine with stoppage of the fecal current, damage to the bowel wall with ultimate gangrene and peritonitis and an associated production of toxins often of the most virulent type. The external obstructions in the shape of strangulated hernias present not only the classical symptoms, but give visible evidence of their presence, hence offer no problem in recognition. The internal obstructions are hidden from view and obscure to palpation. To await the onset of symptoms which afford indisputable proof of their presence in an effort to make a differential diagnosis is but to lose invaluable time in combatting the approach of dissolution. The type of operation must be suited to the local lesion and to the patient's condition; release of obstructing bands and adhesions, resection of tumors by the one- or two-stage methods, resection of gangrenous gut with end-to-end or side-to-side anastomosis or exteriorization as a shotgun-barrel enterostomy, enterostomy above the obstruction alone or enterostomy combined with its removal, all find their place in the various phases and stages of obstruction.

Intussusception is characterized by symptoms which rather readily distinguish it from other forms of obstruction, namely, age incidence, bloody stools, and a palpable mass. The common or ileocolic variety is seen in infants, the rarer colocolic is occasionally observed during childhood and a still rarer variety may be noted at any age and at almost any point of the intestinal tube due to perverted peristalsis dependent

upon intractable neoplasm. Pain, bloody stools and a palpable mass are the cardinal symptoms; with the onset of distention recognition of the mass becomes difficult and at times impossible. It is needless to add that diagnosis should be made and appropriate treatment instituted before distention becomes a feature. The intussusception is to be reduced not by traction on the gut at the point of invagination, but by compression of the tumefaction first to reduce edema, then with compression and gentle traction to the apex of the intussusceptum. Release of the imprisoned bowel with plication of its mesenteric leaf is readily accomplished if undertaken early.

When confronted with evidence of obstruction it may be well to remember that during infancy intussusception is the common cause; that during early adult life hernia and peritoneal adhesions are responsible for a majority, while in the late adult life carcinoma becomes the greatest causative factor.

CASE REPORT NO. 4

Mrs. F., twenty-six years old, mother of five children, and seven months pregnant, was taken with lower abdominal pain, obstipation, nausea and vomiting that went on to fecal vomiting.

Upon rectal examination a tumefaction could be palpated in the rectosigmoid which proved to be a rectosigmoid carcinoma that had caused complete obstruction.

This case is the youngest individual that I have seen where carcinoma of the big bowel caused intestinal obstruction.

Perforated peptic ulcer carries a mortality of fifteen to thirty-five per cent. Dr. Elison of the University of Pennsylvania told me that the lowest mortality at their hospital was twenty-four per cent. It has not been that much in my hands, but, of course, my series would be infinitesimally small as compared to his.

The complications of peptic ulcer urgently demanding treatment are hemorrhage and perforation. Hemorrhage rarely presents an emergency requiring operation for control, but does at all times call for urgent and appropriate treatment, and occasionally is of such massive extent as to lead to an

immediate fatality. Acute perforations give rise to agonizing pain with coincident nausea and vomiting, the chemical peritonitis, the boardlike rigidity, the patient assuming one position and changing position under great protest are unmistakable. The smaller perforations (so-called pin point) require closer scrutiny and are often mistaken for other lesions. Primary shock may be present or absent; when absent a normal temperature and pulse may lull one into a sense of false security. X-ray in upright position should be made in all suspected cases and has given a positive pneumoperitoneum in about eighty per cent of our cases when taken early. Delay in diagnosis and treatment at this stage is but to invite disaster; with the appearance of symptoms indicating peritonitis the favorable time has passed and the grim specter of dissolution is in the offing. Perforation of the posterior wall is frequently sealed by adherence to adjacent structures. Closure of the opening with superimposed layers of Lembert's sutures and an omental fat graft suffices not only to control leakage, but in a good percentage to secure healing of the ulcer as well. The employment of additional measures such as excision or cauterization of the ulcer, pyloroplasty, gastroenterostomy or resection of the stomach will depend upon the extent, character, and location of the local lesion and the general condition of the patient. The prime consideration in such catastrophes is the saving of life. This is accomplished by the stoppage of the leak.

CASE REPORT No. 5

Mr. G., an N. & C. employee, a strong and healthy switchman, was sent in an ambulance from the N. & C. yards to Erianger Hospital, our city, with the following history:

While at work as a switchman he was taken with sudden severe upper abdominal pain. When seen by me and two other doctors he had a boardlike rigidity of the abdomen, nausea and vomiting, pain all over his abdomen, and at the right costovertebral angle, radiating into the right testicle and urethra. The pain was intense in the

end of the penis and the urine had red blood cells.

Up to that time we had not administered opiates, trying to make a diagnosis. The other two doctors felt that we should give opiates and not contemplate surgery. We discussed this with the patient, who was crying for relief. I maintained that regardless of pain in the kidney region, right testicle, and urethra that the man should have his abdomen opened. He agreed, saying, "Fod God's sake, do something for me."

On opening the peritoneum, there was plenty of free fluid and an outgush of air. We closed the perforation and that night he passed a kidney stone the size of a big grain of wheat.

CASE REPORT No. 6

Mr. M., an engineer, forty-four years of age, who had had digestive trouble off and on for years, was lying in front of a big open window a very hot night in August. He had had serious trouble with a former friend who had threatened to shoot him. He was awakened about 2:00 A.M. with such an acute pain in the epigastric region that he felt he had been shot, and his wife had a very hard time showing him his bare abdomen, convincing him that he had not been shot. He assumed one position and would not move or let you move him. The family physician called me and on my arrival we convinced the patient that he had a surgical abdomen and should be operated upon immediately.

We gave one-half grain morphine, got the patient to the hospital, and upon opening the abdomen our diagnosis was confirmed.

He made a nice recovery.

CASE REPORT No. 7

Mr. C. was working at his job of completing manhole tops in one of the foundries of our city, and on attempting to pitch a large one an extra distance he was suddenly taken with severe pain in the upper epigastrium, boardlike rigidity, and to make a long story short, had a perforated peptic ulcer.

I have had two or three cases, that I recall, who were taken in a similar way.

One that I recall, who had eaten what

he thought was spoiled meat, and had all the symptoms of a ptomaine, was in the bathroom vomiting, and the extra straining caused, apparently, the perforation, which gave the acute pain and boardlike rigidity of the abdomen. A laparotomy revealed the perforation.

Diverticulitis occurring in Meckel's diverticulum has been long recognized as a not infrequent cause of an acute emergency. Acute inflammation, localized abscess, gangrene, and perforation with resultant peritonitis and obstruction all are noted as a result of their presence and disease. Hemorrhage and perforation complicating peptic ulcer in Meckel's diverticula are being recognized with increasing frequency as urgent indications for prompt surgical intervention. With the exception of hemorrhage the symptomatology of the lesions produced by Meckel's diverticulum closely mimics that of appendicitis and clinically is not distinguishable from it; the presence of an umbilical fistula or the occurrence of such symptoms in a patient from whom the appendix has been removed would afford a suggestive lead. Diverticulosis occurs far more frequently in the colon than elsewhere in the intestinal tract. I have seen two deaths—the result of rupture of diverticulitis of sigmoid and resultant peritonitis.

Acute pancreatitis is an infrequent cause of acute abdominal disease, being responsible for less than one per cent of cases. Its rarity and the similarity of its symptoms to those of perforated gastric and duodenal ulcers, gangrene, and perforative cholecystitis and, in its later stages, to those of intestinal obstruction, account for infrequency of correct preoperative diagnosis.

Acute pancreatitis, until within recent years, has been universally regarded as an indication for immediate operation, the accepted indications being to relieve tension, to stop hemorrhage, to prevent leakage, and to afford drainage. In the belief that operative procedure will neither lessen or control the formation of trypsin nor prevent its further destructive action in the pancreas, there are many at the present time who contend that operation is best deferred

until the acute pancreatic symptoms subside.

A ruptured ectopic gestation offers a dramatic picture which should give but little difficulty in interpretation. In the future the aims of the profession should be to prevent this complication by making an effort to recognize and remove an ectopic gestation before rupture of the sac, which, of course, will take the proper cooperation of the patient. The history of one or two missed periods, pelvic pain, uterine bleeding with or without the passage of a membrane should lead one to insist on a vaginal examination. Given such a history the finding of an enlargement at the site of the tube, with or without morning sickness and breast changes, will be sufficient evidence upon which to base a diagnosis and to advise operation. The rupture of the sac is accompanied by sudden abdominal pain, at times vomiting, usually faintness, anemia, and collapse; the pulse is rapid, of small volume, and the temperature is subnormal. The abdomen is tender, but not rigid, vaginal examination reveals a tender pelvis with or without palpable mass and at times percussion will reveal free fluid in the abdomen. Severe hemorrhage from a ruptured graafian follicle gives a similar clinical picture, but the accompanying evidences of pregnancy are lacking; indications for treatment in both conditions are identical. It has been argued in some quarters that death from hemorrhage does not occur and consequently that cases of ruptured ectopic gestation should be treated expectantly until they have fully recovered from the primary shock and depression. It is readily admitted that in some cases the shock and depression are out of all proportion to the direct blood loss, clearly indicating that in such cases factors other than hemorrhage play a role and that delayed operation in such instances may lessen the hazard to the patient. It is further admitted that if at the time the patient comes under observation, some hours after rupture, there is evidence of cessation of bleeding, delayed operation may again be advantageous. On the other hand, it is submitted from personal knowledge that patients do die from

primary hemorrhage. It is further submitted that it is impossible to distinguish on clinical signs alone the case in which the alarming symptoms are largely due to shock from the one in which they are largely due to hemorrhage. The blood count cannot be relied upon for an accurate estimate of blood loss because of fluid concentration. Hence, unless the lapse of time since onset of symptoms and the condition of the patient plainly indicate that the cessation of bleeding has occurred, in my opinion it is best to rehabilitate the patient with transfusion of blood and glucose solution subcutaneously or intravenously are employed.

I have had over one hundred extrauterine pregnancies; only two diagnosed prerupture and a good number not diagnosed until the abdomen was opened. I am reporting two bizarre cases.

CASE REPORT No. 8

Mrs. C. was found on the floor of the living room by her husband, who called me, thinking she was dead. When I arrived she gave every evidence of extreme shock, but had a slow pulse. After getting the history of the case I told the husband that had she had a fast pulse I would have suspected a ruptured ectopic pregnancy. After the patient regained consciousness she complained of extreme pain in the region of the gall bladder. She was taken to the hospital and X-rayed in the upright position with negative findings. This patient was so sick that I felt that she had an acute gall bladder, and that we should keep her in bed and await a more opportune time to operate. During the interval and upon closer study we made a diagnosis of ruptured ectopic, and some time later operated, the operation confirming our diagnosis.

The patient made a nice recovery.

CASE REPORT No. 9

Mrs. G., age forty-two years, mother of one child, fifteen years of age, gave an almost typical history of ruptured ectopic with the exception of the location of the pain. She did have some pain in the pelvis, but the upper abdomen was boardlike, so I did a right upper rectus exploration.

Finding no pathology in the upper abdomen, I slipped my exploring hand into the pelvis and found plenty of blood. I closed the upper wound temporarily with towel clips, shifted, opened the abdomen below and removed a ruptured tube, closed both incisions and fortunately saved the woman's life.

Acute cholecystitis furnishes an instance of the acute abdominal emergency about the proper treatment of which there is as yet no unanimity of opinion. Typical cases are readily recognized, the atypical ones are readily confounded with appendicitis, leaking peptic ulcer, and pancreatitis. Difference of opinion arises when the question of their consideration as surgical emergencies is approached; gangrenes and perforations readily fall within this category, but the advisability of immediate or of early operations in acute inflammations of the gall bladder finds both proponents and opponents. Acute blockage of cystic duct by stone will give symptoms that are easily misinterpreted for ruptured peptic ulcer. I have had two such cases recently.

While it is vitally important to recognize and act upon the symptoms urgently indicating surgical intervention in acute abdominal conditions, it is also important to appreciate the source of threatening symptoms caused by conditions not amenable to surgery. A good general rule is to regard the presence of pain, nausea, vomiting, and constipation for as long as six hours as indicative of an intra-abdominal surgical lesion until proven otherwise. While the absence of constipation and the presence of diarrhea usually betoken medical rather than surgical illness, it cannot be accepted as positively excluding the latter. A well-taken history combined with a complete physical examination from head to feet and an analysis of the blood and urine should be given every patient presenting acute abdominal symptoms. By so doing one may hope to avoid most of the pitfalls in diagnosis in conditions simulating the acute surgical abdomen. The abdominal crises of lead poisoning at times give rise to symptoms not unlike those observed in perfora-

tions of peptic ulcers. Severe, painful colic, nausea, and vomiting with boardlike rigidity of the abdominal wall are present. A history of previous attacks, the occupation of the patient, the bluish discoloration of the gums when present and the stippling of the red cells all point to the true condition, but do not rule out concomitant disease. The symptoms associated with lead colic may be dissipated within two or three hours by the administration of calcium chloride intravenously. In doubtful cases the additional time required for this therapeutic test will not materially enhance the risk to the patient with an acute lesion and may be the means of avoiding a needless operation.

Dr. Ross V. Patterson, in an article on "Coronary Thrombosis with Special Reference to Its Differentiation from Abdominal Surgical Conditions," makes the following terse comment:

"The importance of an accurate diagnosis in doubtful cases of abdominal affections is obvious. It may be emphasized that in those individuals past forty years of age who exhibit acute fulminating pain in the upper abdomen, coronary thrombosis should be considered. Common to certain abdominal conditions and coronary occlusion are the following: rapidly developing, spontaneous pain of intense character, chiefly referred to the upper abdomen; muscular rigidity; epigastric tenderness; vomiting followed by shock and collapse; fever, leukocytosis; and even jaundice and enlarged liver. With slight modification of the description these are the symptoms of gallstone colic, perforated peptic ulcer, acute pancreatitis, acute appendicitis, and of various acute intestinal conditions. A laparotomy in such circumstances may prove fatal; indeed the occurrence of tragedies, the result of this error, is already a matter of record. Of cardinal importance in recognizing a coronary affection in doubtful cases is a history of arterial hypertension, previous attacks of angina pectoris, a sense of constriction in the chest, although the pain may be almost entirely abdominal, aching in the arms, dyspnea, progressive fall in blood pressure, a rise in the pulse rate,

feeble heart sounds, gallop rhythm, and the distinctive electrocardiographic findings early in the course."

Calculi impacted in the right ureter and salpingitis, particularly in unmarried girls from whom a full and correct history is seldom obtained, have also been sources of error. The urinary findings and the distribution of pain in the former should lead to a study of the urinary tract before resorting to operation; the pelvic tenderness in the latter, especially when bilateral, the preponderance of hypogastric over epigastric pain, and the presence of a vaginal discharge should impel one to make a vaginal examination and smear. The determination of virginity strongly suggests the appendix as the causative factor; in its absence a satisfactory pelvic examination will usually permit of a differentiation between the appendix and the fallopian tube as to the causation of symptoms.

While the operative procedure is the *sine qua non* in the treatment of acute abdominal emergencies, certain measures in preoperative, operative, and postoperative care greatly add to its safety. Shock is commonly encountered in patients with acute abdominal lesions; the blood volume is reduced, the degree becoming more severe when there is an associated loss of blood. Restoration of blood volume and plasma volume are essential to recovery whether accomplished by natural forces or with the aid of appropriate treatment.

Excessive vomiting produces a dehydration toxemia, to which, in intestinal obstruction, is added the poisoning from toxic substances absorbed from the injured mucosa of the obstructed bowel. Operation should not be undertaken until measures looking toward their correction have been instituted. In patients with acute abdominal crises the disordered intestinal peristalsis prohibits the administration of fluids by mouth. Not only is the ingested fluid vomited, but the fluid secreted into the gastrointestinal tract, with its contained salts, is lost in similar manner. Water and glucose should be given in abundance, subcutaneously and intravenously, to overcome dehydration and starvation and to promote and

maintain the metabolic and water balance of the patient. This latter indication is of equal importance in the postoperative case as in the preoperative preparation.

Just how valuable the gastroscope and the peritoneoscope will prove in diagnosing and differentiating intra-abdominal lesions remains to be seen.

SUMMARY

In every acute upper abdomen in a patient over forty years of age it would be an excellent practice to have a cardiologist associated. Even with the best cardiologist and chest men associated a few abdomens will be opened now and then when the pathology is above the diaphragm.

An acute abdomen requires very accurate study; correct evaluation of all clinical and laboratory signs, and the harmonious association of a good cardiologist, gynecologist and gastroenterologist, and then, unless utopia arrives, errors in diagnoses will continue. If we are broad-minded and will welcome every aid possible in the way of laboratory and specialists to add more data in making a diagnosis fewer and fewer errors will be made.

DISCUSSION

DR. G. A. COORS (Memphis): It amazes me that Dr. Haskins has been able to report a subject of such magnitude in the short space of time that he used and at the same time take in practically every phase of the subject.

It is quite obvious to us all that Dr. Haskins has emphasized the fact that the squandering of time in hairsplitting decisions in acute abdominal emergencies is never justifiable once an acute surgical condition of the abdomen is diagnosed.

Dr. Haskins in his discussion of deaths from appendicitis in America has placed a great amount of blame on the surgeon's shoulders, where it justly and aptly belongs, and also at a very unpropitious time when the state medicine is a current topic, and this apparent failure on our part to lower this mortality causes a very strong political wedge.

Dr. Haskins mentions that only five per cent of the public are aware of the household treatment of acute abdominal pains, and it is quite true, but there are also many cases of appendicitis phobia that has placed great responsibility on the integrity of the surgical profession to refrain from operating on these perfectly willing patients who imagine they have appendicitis. The old adage of appendicitis symptoms occurring in chronological order of pain, vomiting, fever, and leukocytosis has led

a great many doctors with small experience into the pitfalls of spreading peritonitis before surgical aid is sought for the patient. It is rare that I see all of these symptoms in any one case of acute appendicitis.

Dr. Haskins has also brought to our attention that from fifty to sixty per cent of all the surgical abdomens are due to appendicitis and it makes a pretty safe regime to assume that the presence of pain lasting from six hours or longer not relieved by low enema with leukocytosis and not definitely diagnosed as any other intra-abdominal lesion, won't be far wrong in suspecting an appendix.

Dr. Haskins has also mentioned difficulty in diagnosing appendicitis in children, all of which I heartily agree. Dr. Eugene Rosamond, whom we all know and respect and have no doubt as to his honesty, has told me numerous times that thirty to forty per cent of children under ten years old have leaking appendix before diagnosis has been made. There is no blame on anyone here; it is just due to the inability of the child to cooperate, the unreliable response of a child's mechanism to infection, frequency of associated pyelitis, and other childhood diseases. Dr. Haskins suggested the rectal examination of children. It has never been worth much in my hands and the introduction of the examining finger with its concomitant fear and tenseness of the child has precluded any benefit from the examination. However, if these small kids are rolled over on their belly and palpation is done, the tenderness is localized and is much more reliable than any other method of examination.

Dr. Haskins mentioned, but did not elaborate on, the relative merits of the delayed operation for ruptured appendix with spreading peritonitis. It is very gratifying to see the mortality in this condition which was forty-one per cent under no definite management reduced greatly with the increased use of the modified Oschner treatment to twelve per cent.

CASE No. 1

Dr. Haskins' first case is that of a right-sided pneumonia operated on for appendix. While I admire Dr. Haskins' honesty and sincerity in reporting this case, he need not feel chagrined. This has happened to all of us. However, the high temperature reported in this case should make one very suspicious and suggest an X-ray of the chest.

CASE No. 2

This was a case of a paralytic ileus from a ruptured appendix and should probably come under the classification of cases to be treated by the Oschner method.

CASE No. 3

Rupture of periurethral abscess into the peritoneal cavity is so unusual and unsuspected that I have never seen one and hesitate to comment on it.

The subject of intestinal obstruction is one to try

the acumen of the best surgeons, but I believe that the treatment, especially since the advent of the Wangenstein suction is conservatively the rehabilitation of the patient's body fluids and blood chemistry and subject these intestinal obstruction patients to an intermediate rather than an immediate or delayed operation. I am sure this method has yielded lower mortality since the inauguration of this regime in the John Gaston Hospital in Memphis; namely, the reduction from an average of fifty per cent to thirty-six per cent. In intestinal obstruction many factors are to be hurriedly surveyed; namely, the age of the patient, the suspicion of intussusception and volvulus in the young, and the presence of previous operative scars and the suspicion of malignancy in the older ones. It is this condition that I believe a so-called flat plate of the abdomen should be made, as this is the most beneficial information of any one clinical sign on which we have to rely. Normally there is no gas in the coils of the small gut and the presence of dilated coils in X-ray is most informative especially, together with an early presence of increased peristalsis wounds on osculation and the graveyard silent abdomen of the late obstruction.

CASE No. 4

Carcinoma of the rectum in a pregnant woman certainly presents every type of difficulty in diagnosis and probably accounts for the very rapid growth of carcinoma producing obstruction.

Perforated peptic ulcer is one of the most sudden and serious catastrophes occurring in the abdomen. Only about fifty per cent of these patients give a history of previous ulcer symptoms before rupture. However, on the acutely, frankly ruptured peptic ulcer most frequently seen on the anterior wall on the duodenum have a very classical onset.

First, a very severe pain in the epigastrium with almost boardlike rigidity with fear and apprehension of any examination, but rarely ever shocked and in a very splendid physical condition the first few hours after rupture. These cases are usually diagnosed easily, but the chronic perforations that penetrate the pancreas and liver with intermittent leaking and healings with drains of stomach contents to dependent portions of the abdomen, presents some of the most difficult problems in diagnosis. Here an X-ray made in the upright position, if it shows a pneumoperitoneum is very indicative of peptic ulcer rupture, and care should be taken of pneumoperitoneum.

This can be demonstrated in about two-thirds of the cases. However, one precaution must be noticed in the female where very few ulcers occur; namely, the introduction of air through the genital tract by douches and coitus. There is a wide difference of opinions as to what to do with peptic ulcer ruptures. Some prefer simple closure with drain and some without drain. Some surgeons add a gastroenterostomy and some do a resection.

Acute hemorrhage from the upper alimentary tract presents the type probably as to whether from a peptic ulcer or varicose veins in lower esophagus. It is here an accurate history is most enlightening because a general malaise and light jaundice or enlarged liver will give you a hint as to the cause of the dilated veins. Some X-ray men claim that they can visualize these esophageal signs under the fluoroscope, but a great many X-ray men hesitate to give barium either with esophageal bleeding or peptic ulcer bleeding.

However, I have never seen any ill effects from examination under these circumstances. With massive hemorrhage from peptic ulcer that has some definite plan of management, it has been found in large clinics in the world that bleeding in patients under fifty without demonstrable cardiovascular renal disease practically always stops bleeding before death ensues. It has also been proven those patients over fifty have a very high mortality from conservative treatment of peptic ulcer hemorrhage, and it has been found wise to attempt conservative management of those under fifty, and to transfuse and immediately operate on those occurring after age of fifty. It is best to tie all three of the branches to the posterior duodenum to be certain that hemorrhage will not recur.

CASE No. 5

This case illustrates the extreme importance of dual lesion that the patient may have more than one lesion from which he is suffering at any given time. This patient had ruptured ulcer and kidney stone.

CASES NOS. 6 AND 7

These are reports of peptic ulcer ruptures following exertion which is reported in about thirty per cent of peptic ulcer ruptures.

Meckel's diverticulitis has all the symptoms of an acute appendix except possibly the signs of blood in the stools from the gastric mucosa frequently lining the diverticulum. Diverticulitis of the colon is a medical disease until it has ruptured or abscessed, at which time the best results obtained in these cases is the least done, namely, drainage down to the sight.

Diagnosis of acute cholecystitis is usually not very difficult on account of the previous history of gall-bladder disease, the usual history and pre-existing jaundice, and relatively high fever and leukocytosis than we see in appendix. The age of the patient is usually forty or beyond. The controversy still remains as to whether or not to operate on these patients in this acute stage or to try to quiet them down and to delay operation. I believe the modern tendency is toward intermediate operation. (Dr. Erdman's Psychology.)

Dr. Haskins has cautioned you all on the dangers of confounding the intra-abdominal lesions with lesions of coronary arteries. Very frequently a coronary will simulate an acute gall bladder, pancreatitis, ruptured peptic ulcer with its pain in the

upper abdomen, leukocytosis, and vomiting. Unfortunately, electrocardiograms done on these patients during the early stages of the coronary attacks fail to show any abnormalities, which is again confusing. However, if the pain is precordial and has any tendency to be in the upper extremities or neck it would be extremely wise to fortify your position before operating on this patient with a very competent internist.

Acute pelvic inflammatory disease can usually be differentiated by vaginal signs, the history of abortions, and a markedly reduced sedimentation rate.

Ectopic pregnancy is a very difficult lesion to be certain about because here again as in acute appendix the cardinal symptoms of missed period or periods with the passage of decidua, the palpation of a mass in one of the adnexa regions are rarely all present. Any woman not a virgin with any aberration in menstrual history and with acute pain in the lower abdomen and tender cervix on manipulation, whether or not you can palpate masses in adnexa region, should be seriously considered as an ectopic pregnancy.

I heartily and thoroughly agree with Dr. Haskins that an ectopic rupture has no place for conservative treatment, as the patient should be operated on immediately with infusions and transfusions on the table, and it is dramatic and startling the splendid condition in which the patient leaves the operating table.

DR. L. W. EDWARDS (Nashville): Mr. President and Members of the Society: Dr. Haskins has presented a subject that is very interesting, of course, always, to the surgeon, and in this group of cases the surgeon is so frequently put to the acid test, not only in the diagnosis, but in the management of the case.

I think in many of these cases of acute conditions of the abdomen, in which the patient has slipped by the early and safe stage for operation and has developed a rather diffuse peritonitis and is brought into the hospital, oftentimes it is good practice to spend a little time in rehabilitating these cases and correcting certain altered physiological changes that have developed before we resort to major operation and treatment of these cases. So many cases are brought in a state of acute dehydration and low blood chlorides that a great deal of improvement can be made in the late cases before the patient is subjected to an anesthetic and abdominal section.

I would like to emphasize what Dr. Coors said in the management of these late cases of appendicitis where a diffuse peritonitis has developed. In other words, the patient is too late for early operation and perhaps in a state too early for the late operation. In these cases, as he has said, we have had the same experience in the last few years since we have become more conservative, and

have given the peritonitis a chance to localize before resorting to operation and the mortality has been lower. We still see a great deal in the literature on the argument as to whether or not to operate always as soon as a diagnosis of appendicitis is made, regardless of the complications at the stage the peritonitis has reached. We are definitely of the impression that many cases can be saved if treated conservatively over a period of time.

An exception to that statement, of course, is in young children. It has been our experience that we cannot afford to attempt to treat conservatively cases of acute appendicitis in young children for very definite reasons. It is well known that they cannot localize as well as the adult, and we make it a rule to operate on young children as soon as they are brought in, regardless of the stage, and have no reason to change that. But we see many cases of diffuse peritonitis localized into abscess walled off to where they can be successfully treated if given the so-called oxygen treatment, and we have adopted that system in the last few years.

In these cases it is impossible to state from the number of hours given in the history that the patient has been ill as to whether that is a case that should be treated conservatively or immediately subjected to operation. We think the general condition of the patient and the symptoms as to the extensiveness of the peritonitis should be one guide and not the number of hours because many times we will see a ruptured appendix with more or less of a localized peritonitis, in which the patient has perhaps been sick forty-eight hours, and in another case we may see a very diffuse, rapid-spreading peritonitis in a patient who has not been sick thirty hours, so we make a rule to judge by the condition of the patient and the condition of the abdomen as to whether we will treat the patient conservatively over a period of time, and test them out to see if they show evidence of localizing, rather than the number of hours or days the individual has been sick.

We are definitely coming to the conclusion that many of these cases can be localized into an abscessed formation in which they can be successfully drained rather than operate in the face of an acute widespread peritonitis. I would like to mention, too, the question of dealing with appendiceal abscesses as to whether one attempts to remove the appendix. A great many people feel one should not make an attempt to remove the appendix, that you simply should open or decompress the abscess and drain. For many years we have made a practice of practically in all cases removing the appendix in these appendiceal abscesses at the time of operation. We think that if one will definitely investigate, he will find the appendix so located and situated within the abscess or the abscessed wall that it can be enucleated with the finger without retractors, without breaking down the wall of the abscess, and we feel that it is definitely much

better to remove the appendix than to simply make no attempt to remove it and then drain.

DR. C. F. WEBB (Jackson): This paper covers such a wide range it would be impossible to discuss it intelligently in the few moments allowed, but there are one or two things I would like to say. One is I think in diagnosis of acute surgical diseases of the abdomen so often we pay attention mostly to the abdomen and not enough attention to the patient.

For example, with a patient who is very thin and has an ulcer history, of course we look for an ulcer. In a patient who is plethoric and in good condition in the digestive way probably you would look for some chest condition. Someone wrote in the *British Medical Journal* a few years ago something that struck me. He said that in acute surgical diseases of the abdomen one-third were obvious, one-third were difficult to diagnose, and one-third were impossible of diagnosis. I believe with a good history and then a careful physical examination most cases should be diagnosed.

There is one thing I want to speak of here—about the mortality in appendicitis which has been brought up—an increasing mortality. I cannot see why that should be. I believe the doctor said there were 36,000 over this past year—over 34,000 the year before. In a small place like this, in a small hospital, we had, for instance, in 1938, seventy-three appendix operations, acute and subacute, with no deaths; fifty-two perforated, in which the appendix was removed, no deaths; two cases in which the appendix was not removed, peritonitis and death. I do not see why, with conservative surgery, it should not be lower.

We had nine cases not operated. These cases were not operable; they were too sick; two of those cases died and seven recovered, all without operation.

The doctor told us of perforated ulcers, and I have such a short time I want to speak of that. We have our thirty-fifth case in the hospital today, in the fifth day, and he is recovering. This case perforated at midnight and was brought in at one o'clock the following day. He had a grain and a quarter of morphine, eight nembutals, four ounces of castor oil, and other things, and he had more fluid in the abdomen than any other case I had ever seen. With proper drainage those cases get well. This is the thirty-fifth case.

The cases that were operated within twelve hours or under, thirty-two of them have recovered. We lost one case thirty-six hours after perforation; we lost one case twenty-five hours after perforation. We lost one case that had recovered, apparently, from the abdominal operation, but died of double pneumonia.

I believe that the cases that are operated under twelve hours will practically all get well provided you do not do too much. A gastroenterostomy should never be done. You should close the ulcer as quickly as possible, and if it has been perforated over twelve hours with a great deal of escape of stomach contents, put a drain in the lower right quadrant, in addition to one in subhepatic fossa, which is used even in early cases, because the fluid follows the ascending colon into the lower right quadrant. In the last case we also put a tube in the mid-line, running into the extreme lower abdomen. With early operation do not do too much, and with proper drainage these cases should all get well if you operate within twelve hours.

DR. C. M. MILLER (Nashville): I wish to say a few words about one phase of Dr. Haskins' paper which has not been mentioned in any of the discussions we have heard.

Quite recently I had occasion to look up the cases of adult intussusception that we had in Nashville over a period of fifteen years. They were quite rare, as you might guess, being only five in number. In practically all of these cases the intussusception was initiated by a polypus, Meckel's diverticulum or a tumor of the small intestine. None was found in the large intestine.

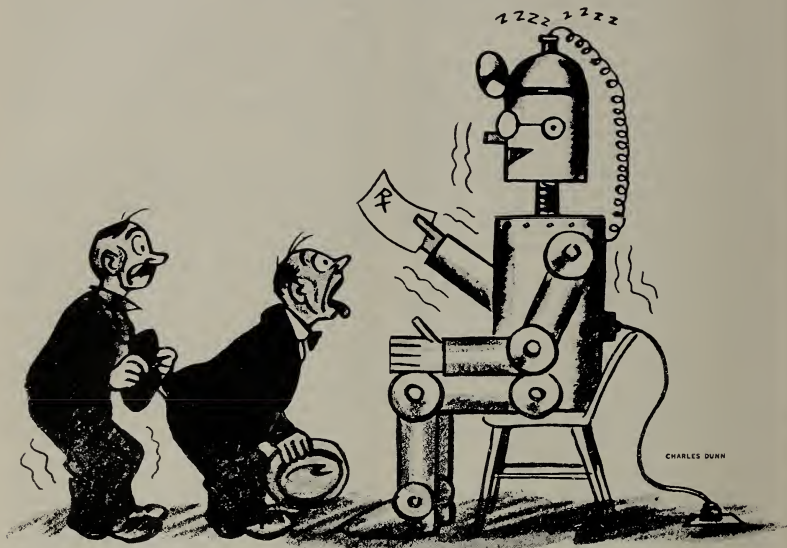
In these cases we came to the conclusion that intussusception which had persisted over a period of twenty-four hours were in all probability resection cases and we advised resection on the spot rather than disinvagination. We had one experience in which disinvagination was done and the patient had a rather stormy convalescence due to peritoneal soilage, so our conclusion was that in those cases which had existed over a period of time, in which gangrene of the intestine or changes which would necessitate resection had occurred, resection should be done on the spot.

Another group of cases that we have had occasion to loop up dealt with duodenal ulcer in all of its surgical manifestations. At the present time those cases are being followed. The mortality in Nashville for perforated duodenal ulcer has been about the same it has been anywhere else, with the possibility that it is one or two per cent lower. I think the average will run twenty-two per cent the country over, and the mortality in Nashville is just a fraction above nineteen per cent. That was enhanced a fraction of a degree just recently when one I had was operated on four hours after perforation, a simple closure was done, seemingly he made an uneventful recovery, but he died twelve weeks later of a metastatic brain abscess.

A DOCTOR LOOKS AT SOCIALIZED MEDICINE*

And Raises the Question: Shall the First Aim of Medical Service Be Quality or Quantity?

ERNEST L. SHORE, B.S., M.D.



The patient is dependent on a robot who takes his orders from the Government

THE QUESTION, "How can medical service be assured to all?" is just one of many which those with Utopian aspirations now pose. Proposed answers usually take the form of some cooperative health scheme. All these schemes, I have found, have one invariable feature in common. Those who pay the money assume an extra burden—paying for those who manage and spend the funds. All that they hold out to the paying contributor is the gamble that he will receive more than he pays for. As in most gambling, the odds are against him.

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It makes no essential difference if a government bureau manages the assessments. In any case the funds are controlled by people who have not had to earn them. There is a vast difference between spending one's own money and somebody else's. That is why those who want good medical service when they need it keep the mastery of their own dollars. That way they can reject unsatisfactory service. They do not have to pay twice to get adequate service, because "he who controls the purse calls the tune."

There is much to be said for the collective principle where accidental injury or death is concerned. Here it is obvious and tangible when something has happened. But

what constitutes sickness? The difference is that nothing need happen to an individual for him to obtain service. A person becomes "sick" of his job, his environment or his family relationships. He goes to see the doctor who, after much questioning and examination, declares he is not sick. The physician renders service in determining the absence of sickness and should be paid on the basis of each service. This is not true under any form of social medicine.

Pseudo-Illness Encouraged

Under medical relief administration, bureaus often request examination and opinion when no illness is to be found. If the doctor didn't prescribe, he is told no compensation is due him. This encourages doctors to falsify. It is the experience of representative physicians in Germany and Austria, under socialized medicine, that seventy per cent of the persons visiting their offices are not sick. They say that not more than five per cent of these are conscious malingerers. But the result is that in one seven-year period the use of X-ray increased twentyfold.

This does not represent actual illness, but a desire to get something back for something paid. Hospital admissions in the United States run less than eight per cent of the population. It is a great mistake to expect ninety-two per cent of our people to pay hospitalization insurance, either into cooperative funds or in taxes for a government bureau, and receive nothing in return. But human nature in this country is not greatly different from that in Europe. Already we can observe the same signs here. Hospital admissions in 1937, under increased relief administration, and with more hospitalization groups, exceeded 1936 by 2,000,000. Many of these people could have remained at home and obtained the same recovery at less cost to society.

It probably would require a generation of social medicine in this country to destroy that sense of personal responsibility for

which our people have been noted and to develop in its stead the greediness, the feeling that assessments create a right to service, which are concomitants of social schemes long in effect in some European countries. Social medicine creates its own illnesses. It makes of the doctor a policeman guarding the treasury against his patient. The patient is trying to make his complaint look big in order to get as much as possible for his—and other people's—money. This breaks down the mutual confidence between doctor and patient which spells efficient service.

Bureaucrats believe that medical service can be standardized as a can of tomatoes or a keg of nails. But it will differ as individuals differ, in all gradations from the failure to the perfect. It follows that those giving the more thorough and lasting service will ask greater rewards than those doing inferior work. But with bureaucratic control, compensations are fixed the same for skillful and unskillful performance. As demands become too great for the treasury to bear, will the fund managers reduce their own salaries? No, the first reductions will be made in payment to the doctors and hospitals. With poorer rewards the quality of medical service will be reduced.

The European doctor under social medicine approaches his day's work with the sense that he is primarily a clerk in a government bureau. He obtains his stipend whether or not he serves well. He realizes that, in some fashion, he must serve from forty to eighty patients a day and he is impressed with the futility of it all. In Germany I am told it is not uncommon for a doctor to see eighty patients in one afternoon's office period. Under such circumstances a patient gets "a look and a bottle." Even the moderately sick are shunted off to the hospital.

Insurance Is More Costly

Director Weber of the Union of Insurance Bureaus of Aix la Chapelle, Germany,

reported in 1928 that in Germany, "35,000,000 insured pay four times as much as 30,000,000 not insured. The insured patient uses three times as much medicine."

Officeholders in the medical administrative personnel exceeded doctors in 1935.

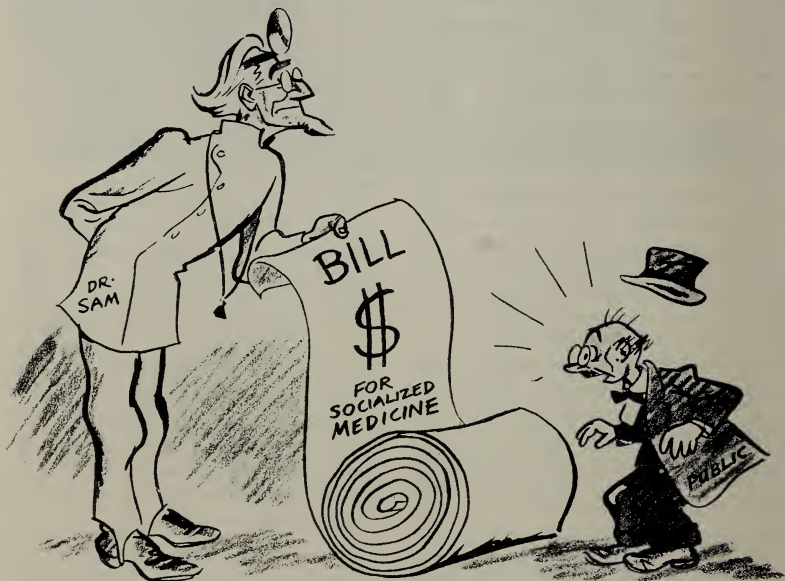
In England only those panel doctors in the patient's area are available to him and, once designated, he cannot change for a year. Records of his ailments are public property. He is no longer an individual, but one of fifty or more requesting attention. When hospitalization is necessary there is no choice. Only general practitioner service is available. To obtain a specialist requires approval of the supervisor, whose business it is to conserve the funds. The patient is dependent upon a robot who takes his orders from a government-directed insurance cooperative.

The Secretariat of the League of Nations has declared the United States to be the

healthiest nation in the world. In the face of this record, social system advocates try to sell the country on procedures rather than results. Their method erroneously presumes that when the *quantity* of medical service is increased the *quality* will remain constant.

For many years it has been accepted that, in a given year, forty per cent of the people of this country visit no one for their health. From this it is reasoned that from forty to fifty per cent cannot afford medical service. The truth is they either do not need such service or else do not want it. Conflicting figures in some of recent surveys made at great waste of the taxpayers' money appear to be the result of coloring to suit the socialist objectives of those higher up.

Already we are being carried a long way toward the socialization of health services in America. In addition to the wide va-



The so-called "free" service must be paid for with an added thirty or forty per cent for administration and inefficiency

riety of county and state institutions; the tax millions that go to subsidize private hospitals in the upkeep of their public wards; county, city, state, and federal public health departments; medical departments of the army, navy, and national guard; and the colossal expenditures for the benefit of war veterans, we now have medical features in Social Security and relief administration.

The annual tax bill to support all these activities runs to a stupendous figure. Therefore, it should be realized that so-called free services are not free. They must be paid for, always with an added thirty to forty per cent for administration and inefficiency. It costs Atlantic City, for instance, \$32,380 to administer \$108,000 in one year.

With all these billions spent collectively for health, why are we not a nation of perfect people, physically? Why are we instead so much in need of a biological purge? Because it is impossible to buy our way to perfect health. There is a large hereditary factor in health. Statutes will not make the public medical-minded, however available they make advice and help.

These social schemes are not inventions of the organized medical profession. They are part and parcel of the cooperative experiment called socialism or collectivism which attempts to avoid the rigors and chastisements of Mother Nature in her effort to improve the human race. It is not new; decaying civilizations have destroyed themselves in the effort to preserve the weak at the expense of the strong.

Just now we hear much of three-cent-a-day hospitalization schemes. Private insurance is based on risk and frequency with which benefits are used. The more hazardous an occupation is, the higher the premium rate for a definite coverage. These group hospitalization plans ignore such precepts of insurance. They discard both risk and ability to pay and are therefore economically unsound.

The three-cent rate is based on an expectation of approximately 6,000,000 hospital admissions a year. But they are increasing so rapidly that in 1937 there were 10,000,000, and in a few years, under the present socialization impetus, it may easily reach 15,000,000. That will bankrupt the socialization plans. Then the politician will step in with government subsidies, because he sees a great source of power waiting to be capitalized.

Civilization's greatest handicap is the fact that it cannot withstand the promulgation of fool ideas oft repeated. Liberty has nowhere been so prostituted as by government in the name of social justice. When once given to government, liberties rarely can be recovered. Bureaucracy once established is seldom abolished. Usually it is absorbed by some larger and more powerful bureau. Such is its self-perpetuating character.

The cost must be paid entirely by individual effort. Those who have tasted power do not want to return to that community of effort upon which government feeds. Instead, they keep on maintaining themselves by dispensing new jobs—unearned plums—to their supporters.

City, county, state, and federal governments are symbols which mean you and me, yet the average person when given a chance at the public treasury will dissipate the funds as freely as if the government were a separate entity with independent earning power. Really it is the most hungry parasite that saps the fruits of our labors. Today about thirty per cent of the people's income goes to its support. Government's unlimited taxing power is the power to destroy. The more people in government the more who are removed from production, the fewer the producers left to carry the load.

Leave a Chance to Advance

We must unshackle the individual and permit him to move forward to meet his necessity, because it is by the stimulus of

necessity that civilization advances. Eliminate all the licensing systems not definitely necessary for the protection of society. Remove all unnecessary controls and restore government to its rightful principal functions of police duty.

Let us beware lest, in our desire to be kind to the weaker brethren of today, we are more than unkind to the brethren of tomorrow.

The right sort of medical service can best be assured to all by keeping the mastery of our own dollars. The future of public

health must center around the family physician who with his bag and office equipment still cares for ninety-two per cent of the nation's illness.

The treatment of illness must remain a profession. Now, what constitutes a profession? Personal service! It cannot be standardized. There is an intellectual character to this service, with considerable self-direction and individual responsibility. There can be but one master in the house of medicine and that is the doctor himself.

LEUKEMIA*

RALPH H. MONGER, M.D., Knoxville

IT IS NOW almost one hundred years since the first classical description of leukemia, yet today we know almost nothing about its cause or its specific treatment. The first case was described by Bennett¹ in 1845 who gave it the name "leucocythemia." A short time later Virchow described a similar condition which he named "leukemia." Newman in 1870 was the first to describe the changes in the bone marrow. The entire hemopoetic system is usually involved, the bone marrow, spleen, and lymph nodes. Since this time numerous additional series of cases have been reported.

Leukemia may be defined as a disease having a more or less insidious onset, in which the blood-forming organs are involved, and is characterized by a widespread and rapid proliferation of the white blood cells and invariably terminating fatally.

Although there are many classifications of this disease in the literature, probably the one most generally accepted is the myelogenous or myeloid, the lymphogenous or lymphoid and the monocytic. Each of these is in turn divided into the acute and chronic stages. At some period during the course of this disease there may be a remission characterized by a drop in the total number of leukocytes and this is known as aleukemic leukemia.

As to the cause of this disease almost nothing is known. Numerous theories have been proposed, but they have not been accepted because of lack of evidence. There are in general three main possibilities:² "(1) That it is caused by an unidentified infectious agent; (2) that it is a so-called metabolic disease in which there is either an excess, a deficient or an abnormal formation of some essential substance in the body; (3) or that leukemia is a malignant neoplasm." With its widespread distribu-

tion throughout the tissues of the body it can certainly be easily classified as a malignancy, and the presence of an unidentified infectious agent, or a metabolic disturbance may be factors in the proliferation and multiplication of leukocytes. It is a worldwide disease and attacks all ages, races, and groups of people. Acute leukemias occur more frequently in young individuals. In a series of 397 cases studied by Ward,³ twenty-two per cent were under five years of age, the next highest group was fifteen per cent between fifteen and twenty years of age. The chronic lymphogenous type is more frequent past middle life and in a series of eighty-four cases studied by Ward,³ twenty per cent were between forty-five and fifty years of age. Chronic myelogenous leukemia is most frequent in early middle life. In a series of 247 cases studied by Ward,³ eighteen per cent occurred between twenty-five and thirty years of age and twenty per cent between thirty and thirty-five years of age.

Numerous papers and monographs are present in the literature on the subject of the formation of blood cells. Time will not permit a discussion of these in this paper; however, I shall try and discuss briefly the usual blood picture and clinical findings in these different types.

In the acute leukemias the onset may be insidious or it may be sudden. Inasmuch as these are most frequent in children the first symptoms may be a sore throat or persistent nosebleed, which is difficult to stop, or there may be hemorrhages into the skin and mucous membranes; the lymph nodes are enlarged; they may have large ecchymoses under the skin, weakness, with some vomiting and diarrhea. They often become pale from anemia and this may bring them to the physician. Examination of the patient will show perhaps palpable external lymph nodes, or maybe a greatly enlarged spleen, a marked or moderate anemia. For the anemia a blood count is made and in

*Read before the Tennessee State Medical Association, Jackson, April 11, 12, 13, 1939.

the majority of cases there will be a marked increase in the total leukocyte count. The differential count will show an abnormal picture with a predominance of lymphocytes, myelocytes or monocytes according to the type of leukemia present. Associated with this picture there will be a marked reduction in blood platelets, especially is this true if there be bleeding from the nose or under the skin and mucous membranes. There will be a marked or moderate secondary anemia. Coagulation time and bleeding time of the blood are usually prolonged. As a rule, these patients die within a short time, about eighty to eighty-five per cent in the first few weeks, and very few live more than six months. The cause of death in these cases may be continued uncontrollable hemorrhages from mucous membranes and nose, or broncho-pneumonia or some other infection.

In chronic myelogenous leukemia the onset is usually insidious. Patients will usually present themselves, stating they are under par, but cannot give any specific time from which this started; the interval may be a few months or it may be a few years. Some of the symptoms may be a pain in the left side, or a feeling of heaviness in this area or they themselves may feel a mass in the abdomen. As a result of this enlarged spleen they may have digestive disturbances such as eructations, nausea, or vomiting. They may have epistaxis or noticed some blood in their stool, the enlarged spleen may cause dyspnea and they may be pale from the anemia present. The examination will usually reveal a greatly enlarged spleen and if the disease has progressed far enough there will probably be a few enlarged lymph nodes. Blood count will show a secondary anemia with a total leukocyte count in some instances varying from 200,000 to 350,000 per centimeter. Differential count will show a large percentage of myelocytes and these are neutrophilic, basophilic, or eosinophilic. The basal metabolic rate in these cases is always increased.

In chronic lymphogenous leukemia the onset is also insidious. The first symptoms noted may be weakness, pallor, hemorrhages

from the mucous membranes and skin. He may himself discover that there are small nodules, nontender and painless in the neck, axilla or inguinal region. He may have a slight injury or a minor operation which is followed by long continued hemorrhages. Examination will usually show a generalized enlargement of the external lymph nodes. If the duration is long enough the spleen will be palpable. Blood examination will show a marked or moderate secondary anemia, a marked increase in the total number of leukocytes with the differential showing usually from ninety-five to ninety-eight per cent small lymphocytes.

Monocytic leukemia is the rarest of the types. Klumpp and Evans¹ recently reviewed the literature and reported a total of eighty-five cases. They reported eight cases and these were characterized by an abrupt onset of symptoms and a relatively short course. These patients show findings characteristic of the other leukemias, enlarged lymph nodes, enlarged spleen and liver. The blood finding showed a secondary anemia, with only a moderate increase in the total leukocyte count; however, the differential count showed an increase or predominance in the number of monocytes. These patients usually have an elevation of temperature and associated with the lymphadenopathy and the monocytes, there should always be a differentiation between this disease and infectious mononucleosis which can very easily be done by the heterophile antibody test, the technic of which is simple and rapid.

There is probably no other disease in which there is as much involvement of other tissue as leukemia. There is no organ or tissue in the body that is exempt from an infiltration of leukemic cells. In the skin cutaneous lesions occur in all types; these may manifest themselves in various forms as petechia, vesicles, wheals, nodules, tumors, etc. I recall one very interesting case in which the diagnosis was made by a dermatologist (Dr. A. H. Lancaster) when the patient consulted him for skin disease. Gates² states that "Although cutaneous tumors of leukemia probably are metastatic in the majority of cases, there is consider-

able evidence that they may originate in the skin, though they are rarely confined to it." Purpuric spots in the skin may be present in any type of leukemia, but they are most common in acute leukemia and the terminal stages of chronic leukemia. These may be petechial hemorrhages or large bluish ecchymoses. The mucous membrane of the mouth and upper respiratory tract are frequently involved and this may manifest itself by bleeding from the mucous membrane, or by the presence of large ulcers with a necrotic base that are a suitable medium for bacteria, the most common being Vincent's organisms. In this disease there are also definite changes in the retina. Gibson⁶ studied twenty-two cases, part of which were confirmed by autopsy and part by biopsy and blood count. The conclusions in his report were to point out: "The close parallelism between the amount of hemorrhage in the retina and the degree of anemia which is associated with the leukemia." Deafness is often a complication. The writer reported a case in which deafness was one of the initial symptoms and at autopsy there was an infiltration of the canals with leukemia cells. Infiltrations of cells may occur in the thyroid, thymus, and myocardium. In these cases that terminate with pneumonia, microscopically there will be found a predominance of leukemic cells composing the exudate found in the lumen of the alveoli. Leukemic infiltrations of the kidneys is very common and the pelvis often shows petechial hemorrhage in the mucosa which will cause a hematuria. The serous membranes, the pleura, the pericardium, and the peritoneum often show numerous petechial hemorrhages. The liver is often enormously enlarged and microscopically there is found collections of leukemic cells. The spleen is always enlarged, being largest in cases of myelogenous leukemia, when it may fill the greater part of the abdomen. The finding in the gastrointestinal tract shows a congestion of the mucous membrane and in some instances petechial hemorrhages under the mucosa throughout the entire gastrointestinal tract. The Peyer patches and solitary follicles are often hyperplastic. The bone marrow⁷ "usually

shows processes beginning as hyperplastic foci which enlarge and coalesce, eventually extending throughout the marrow-containing portion of the bone. The spongy trabeculae are then attacked and found to be in various stages of absorption. The shafts are thin, and in places a distinctly aggressive destruction of the bone is seen." The lymph nodes are largest and show the most diffuse involvement in cases of lymphatic leukemia. They usually have a slightly soft consistency and a grayish-white color. Microscopically the normal architecture is altered, showing a scanty stroma being composed primarily of lymphoid cells. In the other types of leukemia, the predominating cells are either the myelocyte or the monocyte according to the type present.

During the past five years at the Knoxville General Hospital there have been only ten cases of leukemia. The youngest of these cases was three; the oldest fifty-six. There were five cases of acute lymphatic leukemia, two cases of acute myelogenous, two cases of chronic myelogenous and one case of chronic lymphatic. Three of the acute lymphatic died a few hours after admission to the hospital from generalized bleeding from nose and mucous membranes and two of these showed extensive hemorrhage under the skin. The other two returned home after diagnosis and there was no follow-up. The blood counts varied from 108,000 per centimeter to 180,000 per centimeter with each case having more than ninety per cent small lymphocytes. Only one of these cases developed an aleukemic leukemia, the count a few hours before death being 11,600 per centimeter. Of the two cases of acute myelogenous the counts varied from 215,000 per centimeter to 281,000 per centimeter. One of these cases expired soon after admission and the other showed marked improvement with X-ray treatment and when discharged from the hospital had a total white count of 72,700 per centimeter. One of the chronic myelogenous cases left the hospital after diagnosis was made, but the other case with X-ray treatment showed marked improvement, the count dropping from 112,800 per centimeter to 9,600 per centimeter. In these

cases five were females and five were males. Permission for autopsy was obtained from two cases, one acute lymphatic and one chronic lymphatic. The post-mortem findings were characteristic for this disease—a moderately enlarged spleen, generalized enlargement of the lymph nodes, and extensive petechial hemorrhages throughout the gastrointestinal tract.

Although leukemia is a fatal disease, the general health and comfort of the patient should always be considered. Unfortunately acute leukemia does not respond satisfactorily to any form of treatment. In the treatment of leukemia the following procedures should be considered:² (1) General measures, (2) roentgen rays, (3) radium, (4) thorium X, (5) radiothorium, (6) thorium emanation and thorotrast, (7) arsenic, (8) benzol, (9) organs and organ extracts, (10) miscellaneous agents, and (11) treatment of complications.

Inasmuch as these patients are weak and show a lack of energy, their physical activities should be confined so they will not over-exert themselves or become too tired. These patients usually have voracious appetites and there should be no reason for restricting their foods, except occasionally when they are taking X-ray treatments. Their diet should be well balanced, of fairly high caloric value. There is usually a predisposition to oral infection and special care should be taken to see that they brush their teeth after each meal with a soft toothbrush and rinse their mouth thoroughly with some oral antiseptic.

X-ray treatment is of marked value in some types of leukemia, especially the chronic myelogenous. The writer can recall two cases who, when first seen, the spleen was enormously enlarged; one of these patients lived for five years and the other for six years and both died with pneumonia. The only form of treatment these had was X-ray.

Radium has not been used very extensively. However, some cases are reported in which satisfactory remissions were obtained with this form of treatment. Renon² reported the treatment of six cases by applying twenty-five centigrams of radium

sulphate over the spleen for twenty-four hours on three different occasions at intervals of fourteen days apart. His results were very satisfactory. Other series of cases compare favorably with this report.

Klemperer and Hirshfield² found that by giving thorium X and its products to animals they were able to produce a prolonged leukopenia and decided they would try it in leukemia. They did get prompt results in the return of the leukocytes to near normal, but the ultimate outcome of the disease was no different than other treatments, and because of the untoward unfavorable effects from giving large doses, few reports have appeared since this time.

Arsenic at present is the drug most popular in the treatment of leukemias. It was one of the first drugs used and has existed throughout the years. In 1932, Forkner² outlined certain rules for the administration of Fowler's solution: "Begin with doses of about five minims three times a day for two days, preferably in orange juice immediately after or with meals. On the third and fourth days give six minims daily and continue increasing in this manner to about ten minims three times daily, thereafter increasing by one minim per day until toxic symptoms are pronounced or until the leukocyte count approaches normal. Thereafter omit medication for from two to five days and then decrease the dose from the maximum by one minim per day down to a maintenance dose of from five to eight minims three times daily. Continue this dose indefinitely. The best results are obtained by the rapid and relentless administration of the drug. Patients who take their medicine in a hit-or-miss fashion do not respond well. Do not decrease the dosage of Fowler's solution until the leukocyte count is near normal and then decrease gradually according to the plan just outlined. There is apparently no danger of producing an actual and permanent aplasia of the blood-forming organs. Omission of the medicine for more than one week is of no advantage and may eventually necessitate more medication than if continued in small doses. Disregard mild toxic symptoms. If a patient has diarrhea or vomit-

ing and if he has taken only small amounts of Fowler's solution and the leukocyte count remains high, give by rectum in a few ounces of water twice the dose which he would take by mouth. If for any reason the patient cannot take the medicine either by mouth or by rectum, a solution of potassium arsenite may be prepared and given intravenously twice daily in about twenty cubic centimeters of normal saline solution."

Benzol has almost been discontinued, inasmuch as severe anemias and hemorrhages have been noted from poisoning with this drug.

In the cases reported in which splenectomy has been done the mortality rate was so high that this procedure has now been almost completely abandoned.

Transfusions of blood may prolong for a short time the fatal termination and, according to most authorities, it is of questionable advisability.

Following the theory that the etiology may be due to some altered states of metabolism extracts of organs of animals have been tried. These included spleens of sheep, rabbits and ox, bone marrow, thyroid and testicular fluid. A few cases have been reported claiming good results following bone marrow administration, yet the cases reported with the exception of one had no proof that they were cases of leukemia.

Among other drugs that have been used to treat this disease are quinine, phosphorus, antimony, iron, iodine, oxygen, ergot, tuberculin, Coley's toxin, colloidal gold, silver, sulphur, lead, cinnamic acid, amidopyrine, and naphthalene tetrachloride. Fever therapy, diathermy, and heliotherapy have also been used. Autoculation of blood and inoculation with malaria parasites have been tried, the workers trying these methods having claimed favorable results, yet they have failed to prove efficacious as to any specificity.

In conclusion it may be stated that the relative occurrence of the groups of leukemia apparently corresponds with the relative percentage of the various types of leukocytes in the circulating blood, the granulocytes, lymphocytes, and monocytes. The underlying systemic disorders are essential-

ly the same in all cases. An arbitrary division is made into acute and chronic and into the number of cells leukopenic and leukocythemic forms. The diagnosis is best made on the characteristic blood changes, depending not only on the number of cells present, but the highest percentage of the cells characteristic for the different types. The treatment is largely symptomatic; arsenic, transfusions, and roentgen irradiations are the chief means of inducing symptomatic improvement, remissions or prolongation of life. In presenting this paper I have added nothing new to the subject, yet in this review if some point might be renewed so that early recognition of this disease might be made possible and the individual's life prolonged for a few years, I feel that the time spent on this subject will not have been in vain.

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DISCUSSION

DAVID W. HAILEY, M.D., (Nashville): Mr. Chairman, Members of the Tennessee State Medical Association, and Guests: I enjoyed Dr. Monger's paper very much and he has given us a most complete résumé of this group of blood dyscrasias. I find nothing of practical importance on which to disagree with him, and will only try to emphasize a few points.

The diagnosis of chronic myelogenous and chronic lymphatic leukemia is readily made from the clinical findings and study of stained blood smears, but biopsy from sternal puncture or lymph node may be necessary in order to make a diagnosis, if one sees the patient for the first time during the aleukemic stage of chronic leukemia, though a diagnosis is usually possible from the study of the peripheral blood alone. Aleukemic leukemia may simulate pernicious anemia, aplastic anemia, or thrombocytopenic purpura. An elevated B. M. R., say plus forty, is a valuable diagnostic finding, as this is

almost constantly elevated even during the aleukemic stage.

The term, pseudo-leukemia has been used to designate those cases of lymphatic leukemia that show no evidence in the peripheral blood of the neoplastic process going on in the lymph glands and spleen. A biopsy is usually necessary to diagnose this type. When one considers the acute leukemias, a differentiation of the types is largely of academic importance only. If one excludes from this group the fulminating cases as well-defined lymphatic or myelogenous leukemia, we have those cases usually diagnosed myeloblastic or monocytic leukemia. They occur typically in the young, are usually fatal in two to six, very rarely ten weeks. Fever, constitutional symptoms, capillary hemorrhage into various organs are the most constant clinical findings.

According to the Mayo Clinic, about forty-five per cent of these cases have leukocyte counts below 10,000. They may have counts of 150,000 or above. Differentiation from infectious mononucleosis is necessary, and the findings of a high heterophile antibody titre, as brought out by Dr. Monger is of great assistance. The spleen and lymph glands are usually, but not always enlarged. A study of the stained smear brings forth a different opinion from each observer since the dominant cells are too primitive to be identified with certainty. Whether the cells are monocytes or the parent cell of a myeloid series can be rarely determined with certainty, and there will be expert opinion on either side. Tissue cultures and oxidase stain seem to point toward the myeloid series in most cases, rather than the reticulo-endothelial system. Myeloid cells younger than the promyocytes stain inconstantly with oxidase.

In the past two years I have had two cases of acute leukemia in adults, ages seventy-three and

thirty-four, respectively. The diagnosis of acute monocytic leukemia was made by the pathologist, Dr. Goodpasture, in one, and acute myeloblastic leukemia, from the blood studies alone, in the other, though I must confess that from the stained smears, the diagnoses might well have been reversed. They lived three weeks and twelve weeks, respectively after the onset of symptoms. One had a count of 177,000, the other 19,500, and the primitive cells constituted seventy per cent of the differential count before death.

X-ray therapy is most helpful in chronic myelogenous leukemia. The patient's sense of well-being should guide the frequency of treatments, since the beneficial effects tend to become less on repetition of treatment. At first about 600 R. units may be sufficient for six months and later at two-month intervals. Chronic lymphatic leukemia responds a little less well to radiation and the aleukemic leukemias of both types show inconstant response. Attention to the patient's general health and comfort as suggested by Dr. Monger should not be overlooked. We feel that a high CHO diet and the administration of glucose in the form of stick candy before radiation lessens the unpleasant reactions. Transfusions are of doubtful benefit and often make the patient more uncomfortable. Radiation has largely replaced the use of arsenic.

With our present knowledge, or lack of it, it seems best to do nothing in the acute leukemias except try to make the patient comfortable, and not allow the anxious family and friends to force us to futile measures which only succeed in making these unfortunate patients more uncomfortable. The judicious use of consultants will often aid in maintaining this position.

DR. RALPH MONGER (closing): I just want to thank Dr. Hailey for his discussion. I have nothing further to add.

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H. H. SHOULDERS, M.D., Editor and Secretary

SEPTEMBER, 1939

THE ISSUE

SHALL PATIENTS AND DOCTORS RETAIN THEIR FREEDOM OF JUDGMENT IN THE MATTER OF MEDICAL CARE, OR SHALL THIS FREEDOM BE SURRENDERED TO SOME GOVERNMENTAL AGENCY?

EDITORIAL

A DOCTOR LOOKS AT SOCIALIZED MEDICINE

By the kind permission of the publishers of *Nation's Business*, we are reproducing on another page of this issue an article entitled "A Doctor Looks at Socialized Medicine" which appeared in the January issue.

The literature on the subject of state medicine has multiplied with great rapidity in the last few years. Much of it is in the nature of propaganda. A small portion of it consists of a sane discussion of the subject at issue.

Some of the literature has appeared in medical publications, a great deal more has appeared in lay magazines and papers.

We have attempted to glean from lay publications articles which we believe to be of interest to the medical profession. We believe this is of value in keeping the profession posted. We know that doctors are being called upon at frequent intervals to discuss the matter before lay groups.

It is therefore vital and necessary that we be well informed in order to be able to

give a satisfactory reason for the faith that is in us.

PURPOSES IN DISGUISE

For some time we have held to the view, and we think on good grounds, that much of the pressure exerted in behalf of the establishment of state medicine or communistic medicine was being made by a group who are primarily interested in the establishment of a communistic state, and that the establishment of communism in medicine is a logical first step, or by this time, a logical second or third step in the attainment of such an end.

The policy adopted and pursued by members of the communistic party and their collaborators seems to be that of joining up with any organization or movement and obtaining whatever position of leadership they may with the end in view of directing its activities insofar as possible. An example of this is the endorsement of the Wagner Bill by the Communistic party of New York State.

In the issue of the *Saturday Evening Post* for September 2, 1939, there is an article by Mr. Benjamin Stolberg under the heading: "Communist Wreckers in American Labor." In this article the author gives specific instances and names persons who are carrying out the policy above described.

Those who are interested in combating the influence of these communistic wreckers would do well to read carefully this article.

All these developments serve to make still clearer the fact that the issue before the American people with respect to the question of medical care is this: shall patients and doctors retain their freedom of judgment in this matter of medical care, or shall this freedom be surrendered to some governmental agency?

The attempt is made, of course, to parade all these movements under the banner of welfare. The attempt is made to create the impression that these agitators are the only people concerned with the welfare of the people, notwithstanding the fact that very few of them have ever made any sub-

stantial contribution to the welfare of anybody anywhere.

TRUTH IN ADVERTISING

The American Medical Association and the state medical association journals which cooperate with the Cooperative Medical Advertising Bureau of the American Medical Association have been conducting a campaign for truth in advertising for a number of years. This fight has involved sacrifice, of course. First, in the loss of advertising and, second, in the expense of defending suits brought by those whose false claims have been exposed.

Furthermore, the fight has been effective to a limited extent. No one was charged with the authority to prescribe and enforce the limits beyond which the advertiser of a product may not go in representing to the public its merits.

The Federal Trade Commission now has jurisdiction over false and misleading advertising. Reasonable regulations can be enforced. It is necessary, of course, to establish the facts as to whether the claims made by the manufacturer of a product are truthful or not truthful.

Hearings for the purpose of ascertaining these facts must be conducted and doctors are the only ones qualified to give testimony as to whether a drug or a remedy has merit or not. This campaign for truth in advertising which is being conducted by the Federal Trade Commission with respect to drugs or remedies cannot be made successful except with the cooperation of the medical profession.

We are glad to mention the fact that one hearing has been conducted in Tennessee and that doctors gladly gave of their time in aiding the department in arriving at the facts.

ARCHIVES OF SURGERY

The *Archives of Surgery* is a surgical publication of the American Medical Association. It is published at a financial sacrifice. There has been criticism of the publication and this may be responsible for the fact that it has not enjoyed a large circulation.

The criticism is to the effect that a vast majority of the surgical articles deal with research and a smaller portion of them deal with practical surgical subjects.

An announcement is made to the effect that this policy has been changed. The statement authorized by the newly-formed Editorial Board is as follows:

Archives of Surgery: New Editorial Developments

"Development of surgery in the United States has been unprecedented for its rapidity, its quality and its scientific character. Few, if any, would contest the claim that today American surgery leads all the world. In 1920, when the *Archives of Surgery* was established by the American Medical Association, there were but two important periodicals in the surgical field in this country. The space available was hardly sufficient for the publication of all contributions of value—seldom was it possible to publish articles of more than eight or ten pages. These restrictions prevented the publication of many important surgical contributions, especially in the field of experimental surgery. It is not surprising, therefore, that the *Archives of Surgery* has become in the intervening years the leading publication in the field of experimental surgery, and that references to articles published in its pages constitute a large part of the bibliographies of articles on surgical subjects published in foreign periodicals. In every survey of bibliographic references that has been made, references to the *Archives* indicate that it has been the leading source of consultation in the last two decades.

"The highly technical character of much of the material that has appeared in the *Archives of Surgery* has tended to divert attention to some extent from the *Archives* to other surgical publications, which have stressed more particularly contributions in the field of clinical surgery and articles dealing with modifications in surgical technique. The unfortunate illness of Dr. Dean Lewis, Editor in Chief of the *Archives of Surgery* since it was established, brought to the attention of the Board of Trustees of the American Medical Association some of

these special problems associated with this publication.

"After much consideration it was determined to expand the editorial board of the *Archives* and to modify the nature of the contents of the periodical in order to make it fulfill more completely its original purpose. Four additional members have now been added to the Editorial Board: Dr. Arthur W. Allen, Boston; Dr. Alfred Blalock, Nashville; Dr. W. E. Dandy, Baltimore; and Dr. L. R. Dragstedt, Chicago. Dr. Waltman Walters has been made chairman pro tem, during the incapacity of Dr. Lewis. It has been decided to publish papers dealing with clinical investigation on surgical problems as well as articles which concern developments in the various special fields of general surgery. Collective reviews will be published from time to time, written by competent investigators who have devoted themselves particularly to special subjects and who will be invited by the editors to develop such reviews. The *Archives* will provide prompt publication each month of short preliminary reports of noteworthy surgical advances made by its contributors.

"These decisions have been reached after careful consideration of the problems in conferences of the Editorial Board and of members of the Editorial Board with the Board of Trustees. It is anticipated that the surgeons of the United States will welcome the opportunity for more prompt publication in the field of surgery and the availability of the *Archives* as an authoritative medium for the recording of surgical advancement."

DR. WILLIAM BATTLE MALONE

We are shocked by the news of the untimely death of Dr. Battle Malone just as the JOURNAL goes to press.

His picture has hung on the wall of the office since he was president of the Tennessee State Medical Association some years ago. He served the Association well.

He has served well in all the stations to which he was ever assigned, as a student, as a practitioner, as a citizen, in rendering service in the World War, as a teacher, and as an ethical gentleman on all occasions.

It is with a genuine sense of grief that we record his passing. His memory will linger always with those who had the good fortune to be associated with him.

DEATHS

DR. EDWARD PLOTKIN

Dr. Edward Plotkin, Nashville; College of Physicians and Surgeons, Memphis, 1909; aged fifty-six; died August 24, 1939.

DR. N. E. HARTSOOK

Dr. N. E. Hartsook, Johnson City; Medical College of Virginia, Richmond, 1895; aged sixty-four; died suddenly on August 10, 1939.

DR. WILLIAM BATTLE MALONE

Dr. William Battle Malone, Memphis; Memphis Hospital Medical College, 1899; aged sixty-five; died September 4, 1939.

RESOLUTIONS

RESOLUTIONS BY THE CAMPBELL COUNTY MEDICAL SOCIETY

On March 9, 1939, the Campbell County Medical Society lost one of its most beloved and distinguished members in the death of Dr. A. L. Lawson. Dr. Lawson was sixty-seven years old and had served the people of Elk Valley in Campbell County for many years, and in his passing Campbell County lost one of its most useful and public-spirited citizens.

Be It Resolved, That the Campbell County Medical Society deeply regrets the early passing of one of its members.

Be It Further Resolved, That we extend to his widow and children and other connections our sympathy and condolence.

Be It Further Resolved, That a copy of these resolutions be sent to his widow, a copy to the secretary and editor of STATE MEDICAL JOURNAL, and a copy be spread on the records of our society.

J. P. LINDSEY, M.D.

JAMES L. HEFFERNAN, M.D.

JOSEPH MCCOIN, M.D.

NEWS NOTES AND COMMENTS

Dr. W. O. Vaughan, Nashville, announces the removal of his office to 1913-1915 Church Street.

Dr. Sam C. Cowan, Jr., announces the opening of offices at Suite 306, Doctors Building, Nashville. Practice limited to obstetrics and gynecology.

Dr. Robert M. Jeter of Nashville is now practicing in Gleason, Tennessee.

Dr. J. H. Lipsey of Memphis has moved to Brookhaven, Mississippi.

Dr. T. W. Jones of Martin is now located at Bradford, Tennessee.

Dr. Horton Casparis of Nashville has been appointed a member of the Council of the Southern Medical Association from Tennessee to fill the unexpired term of Dr. Oliver W. Hill, Knoxville, deceased.

WOMAN'S AUXILIARY

President-----Mrs. Matt Murfree
Murfreesboro
President-elect-----Mrs. W. T. Braun
Memphis
Press and Publicity-----Mrs. R. Z. Linney
Madison

September days are here again, which means to us the end of summer vacationing—getting settled in our homes—children back in school and most of us becoming club-minded again. Let us as we enter another year of auxiliary work find our places. There is a service each of us can render. The field of auxiliary work offers such a wealth of opportunity for service to the profession of our husbands—an organization from which generates well-planned health programs and authentic health information. May we all return to our duties this fall with zest and enthusiasm. Programs, parties or problems, what if we do

have a busy year ahead? Who would be without one's auxiliary? Not I, I am sure, would you?

In order that we may refresh our memories as to names and addresses of our officers for this year, I wish to introduce them in the very beginning of our fall work.

Advisory Council

Middle Tennessee—Dr. W. B. Anderson, Nashville.

West Tennessee—Dr. Jere Crook, Jackson.

East Tennessee—Dr. Jesse Hill, Knoxville.

President, Woman's State Auxiliary—Mrs. Matt B. Murfree, 125 East Maney Avenue, Murfreesboro.

President-elect—Mrs. H. T. Braun, 275 North McNeil Street, Memphis.

First Vice-President—Mrs. James A. Scott, 547 Lytle Street, Murfreesboro.

Second Vice-President—Mrs. Walter S. Nash, 636 Cherokee Boulevard, Knoxville.

Third Vice-President—Mrs. W. C. Chayne, 1396 Central Avenue, Memphis.

Recording Secretary—Mrs. S. J. Platt, 207 Island Home Boulevard, Knoxville.

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Organization—Mrs. W. T. Braun, 275 North McNeil Street, Memphis.

LINCOLN COUNTY

The Lincoln County Medical Auxiliary suspended regular meetings for the months of July and August. However, contact with the members was maintained by different methods. In July the husbands were complimented with a much enjoyed picnic dinner given at the lovely home of Mrs. Nottleham on the Shelbyville highway. A nurses' tea is planned for the early part

of September and regular work will be resumed the following month.

EXECUTIVE BOARD

Mrs. Matt B. Murfree, our state president, has called a meeting of the State Executive Board of the Auxiliary to be held Friday, September 29, at 12 o'clock, at the Belle Meade Country Club in Nashville. This meeting will be in the form of a luncheon, after which the business meeting will take place.

KNOX COUNTY

Knox County Auxiliary members will honor their husbands at a picnic held September 16 at the home of Dr. and Mrs. J. B. Neil, Lyons Boulevard Road.

MEDICAL SOCIETIES

Davidson County:

The Nashville Academy of Medicine and Davidson County Medical Society reconvened on the first Tuesday in September.

Papers as read and those scheduled to be read are as follows:

September 5—"Leucorrhea," by Dr. Sidney McClelland.

September 12—"Bronchiectasis," by Dr. C. S. Thomas.

September 19—"Surgical Conditions Due to Anomalies of the Mesentery," by Dr. Elkin Rippey.

September 26—"Surgery of the Peripheral Nerves and Their Regeneration," by Dr. R. H. Magruder.

October 3—"The Present Situation in Respect to the Hormones," by Drs. C. S. McMurray and N. S. Shofner.

October 10—"Recent Developments in the Treatment of Infectious Disease," by Dr. Hugh Morgan.

October 17—"An Evaluation of the Electrocardiograph in Clinical Medicine," by Dr. W. R. Cate.

The Academy meets every Tuesday night on the sixth floor of the Doctors Building at 8:00 P.M. and visiting members of the profession are invited to be present.

Dyer, Lake, and Crockett Counties:

The Dyer, Lake, and Crockett Counties Medical Society met in regular monthly session September 6, 1939. Scientific program: "Practical Treatment of Diabetes," Dr. Henry B. Gotten, Memphis; "Pregnancy and Fibroids," Dr. C. A. Turner, Dyersburg; "Sulphapyridine Treatment of Pneumonia," Dr. Richard E. Ching, Memphis.

C. L. DENTON, *Secretary*.

Greene County:

The Greene County Medical Society met Tuesday evening, September 5.

Dr. J. E. Kite of Bulls Gap presented a paper on "Pernicious Anemia." Dr. C. B. Laughlin opened the discussion.

The following members were present: Drs. R. B. Gibson, W. T. Mathes, M. A. Blanton, J. E. Kite, R. S. Cowles, C. B. Laughlin, H. W. Fox, I. E. Phillips, and J. A. Brabson.

I. E. PHILLIPS, *Secretary*.

Hardin, Lawrence, Lewis, Perry and Wayne Counties:

The Five-County Medical Society met at Waynesboro on August 29. The following papers were read:

"Radiation Therapy for Cancer," by Dr. H. S. Shoulders, Nashville.

"Coronary Disease," by Dr. T. J. Stockard, Lawrenceburg.

"Local Infiltration Anesthesia in Obstetrics," by Dr. Milton Smith Lewis, Nashville.

"Syphilis in Hardin County, Tennessee," by Dr. L. D. Farragut, Savannah.

Commander Stephenson, United States Navy, gave a very interesting talk on his work as a medical officer.

The next meeting will be at Waynesboro on September 26.

Robertson County:

Dr. and Mrs. Richard L. Mathews, Springfield, were hosts at a dinner August 16, complimentary to the Robertson County Medical Society.

The scientific program was presided over by the president, Dr. J. E. Wilkison.

Dr. W. P. Stone was the essayist and

gave a paper on "Common Fractures," which was generally discussed.

Dr. Roy Hendley, who has recently located at Cross Plains for the practice of medicine, was unanimously elected to membership in the society.

Others present were Drs. B. B. Sory, W. L. Gossett, R. D. Moore, W. W. Winters, J. S. Freeman, W. W. Porter, and W. F. Fyke. Visiting doctors were Curtis Sory of Fort Lauderdale, Florida; J. H. Padfield, Springfield; John R. Glover, New Orleans; David A. Davis, Nashville.

The next meeting will be held September 19.

OTHER MEDICAL SOCIETIES

On October 5, 1939, beginning at 10:00 A.M. (E.S.T.), the Tennessee Section of the Southeastern Surgical Congress will hold its first organization meeting and Clinical Conference in Kingsport at the Holston Valley Community Hospital.

Five essayists will then present scientific papers:

Dr. Herbert Acuff, Knoxville, "Surgical Treatment of Pulmonary Tuberculosis."

Dr. R. L. Sanders, Memphis, "Diagnosis and Treatment of Surgical Lesions of the Colon," with lantern slides.

Dr. John L. McGhee, Memphis, "Diseases of the Female Breast."

Dr. John C. Burch, Nashville, "Carcinoma of the Uterus."

Dr. J. S. Speed, Memphis, "Fractures of the Long Bones."

C. F. N. SCHRAM, M.D.,
Chairman Local Committee.

Coming Meetings

American Academy of Ophthalmology and Otolaryngology, Chicago, October 8-13.
Dr. William P. Wherry, 107 South Seventeenth Street, Omaha, executive secretary.

American Medical Association, New York, June 10-14, 1940. Dr. Olin West, 535 North Dearborn Street, Chicago, Illinois, secretary.

American Public Health Association, Pittsburgh, October 17-20. Dr. Reginald M.

Atwater, 50 West Fiftieth Street, New York, executive secretary.

American Roentgen Ray Society, Chicago, September 19-22. Dr. Carleton B. Peirce, Royal Victoria Hospital, Montreal, Canada, secretary.

American Society of Anesthetists, New York, October 12. Dr. Paul M. Wood, 745 Fifth Avenue, New York, secretary.

Clinical Orthopaedic Society, Little Rock, Arkansas, and Oklahoma City, October 13, 14. Dr. H. Earle Conwell, 215 Medical Arts Building, Birmingham, Alabama, secretary.

Radiological Society of North America, Atlanta, December 10-15. James J. Clark, M.D., Vice-President, 478 Peachtree Street, Atlanta, Ga.

Southern Medical Association, Memphis, November 21-24. Mr. C. T. Lorz, Empire Building, Birmingham, Alabama, secretary.

Tennessee State Medical Association, Chattanooga, April 9-11, 1940. Dr. H. H. Shoulders, 508 Doctors Building, Nashville, secretary.

Examinations

American Board of Obstetrics and Gynecology, January 6, 1940. Dr. Paul Titus, 1015 Highland Building, Pittsburgh, Pennsylvania, secretary.

Tennessee State Board of Medical Examiners, September 27 and 28, Memphis. Dr. H. W. Qualls, Secretary, Exchange Building, Memphis.

erative examination there were no signs of central nervous system involvement. On the seventh day after the spinal anesthetic the patient became stuporous, refusing to talk.

Reflexes and blood test proved it to be an acute neurosyphilitic flare-up. The patient suffered with delusions and hallucinations. Upon being placed on antiluetic treatment, all symptoms disappeared in fifteen days. Whether the operation, spinal puncture, or the anesthetic itself initiated cerebrospinal lues the authors are unable to say. Syphilis has always been considered a mild contraindication to spinal anesthesia. In reporting these cases the authors wish to call attention to this possible complication.

DERMATOLOGY

By E. E. BROWN, M.D.
Doctors Building, Nashville

Sulfanilamide in Treatment of Pyogenic Dermatoses. Albert Strickler, M.D., and Maurice J. Stone, M.D. Journal of American Medical Association, August, 1939.

Considering the fact that sulfanilamide has been scientifically established as an inhibitor of the growth of bacteria, especially cocci, the authors decided to use it in some of the more resistant, chronic, and sometimes fatal pyogenic dermatoses.

It was used in two cases of impetigo contagiosa neonatorum, both of whom responded most favorably. They also used it in six cases of secondary pyogenic dermatoses with almost universally favorable results.

The next type of cases for which it was used was the more resistant type of syccosis vulgaris. This series included four cases and in all of these their results were good.

They, therefore, concluded as a result of their trial of sulfanilamide they were convinced that this remedy has a distinct field of usefulness for pyoderms which may be fatal, those with a constitutional reaction and rapid spread, and chronic types (particularly follicular) for which the usual measures are without avail.

OBSTETRICS AND GYNECOLOGY

By HAMILTON V. GAYDEN, M.D.
Suite 234 Doctors Building, Nashville

Acute Onset of Central Nervous System Syphilis After a Spinal Anesthesia. Snyder and Snyder. Current Researches Anesthesia and Analgesia, July-August, 1939.

There have been many reports of head injuries causing development or exacerbation of neurosyphilis. The authors give detailed reports of three cases mentioned in the literature and also report one of their own of neurosyphilis following spinal anesthesia. This was a case of herniotomy done under spinal anesthesia in a subject who had been previously treated for syphilis. On a preop-

Ruptured Graafian Follicle and Corpus Luteum with Intra-abdominal Hemorrhage Simulating Acute Appendicitis and Ruptured Ectopic Pregnancy. A. M. Weil. American Journal of Obstetrics and Gynecology, Vol. 38, p. 288.

On examination, if seen immediately after the accident, and if bleeding has been profuse, the patient may show signs of mild shock characterized by pallor, rapid pulse, and low blood pressure.

ABSTRACTS OF CURRENT LITERATURE

ANESTHESIA

By HUOH BARR, M.D.
Medical Arts Building, Nashville

Without a complete investigation one could easily confuse these findings with those frequently seen in ruptured ectopic pregnancy. If rupture is associated with slight hemorrhage, and if the right ovary is involved, the condition is usually confused with appendicitis. Examination of the abdomen will reveal palpable right rectus spasm, direct and rebound tenderness, however, with maximum tenderness somewhat below McBurney's point. Examination per vaginam because of the pain associated with manipulation of the internal genitalia causes one to suspect pelvic disease rather than appendicitis. In some instances slight enlargement of the ovary, or the presence of a definitely palpable mass, which is tender on manipulation, will focus one's attention on the internal genitalia rather than the appendix.

Thirty cases of Graafian follicle and corpus luteum rupture with hemorrhage, operated upon with a tentative diagnosis of appendicitis or ruptured ectopic pregnancy, are reported. Five additional cases are discussed. These patients were observed in the hospital for a maximum period of five days, and a clinical diagnosis of ruptured Graafian follicle with slight bleeding was made. All recovered without the aid of surgery. The differential diagnosis between rupture of Graafian follicle and corpus luteum hemorrhage and appendicitis or ectopic pregnancy is discussed. The only characteristic symptom noted in rupture of Graafian follicle and corpus luteum was sudden pain, and this occurred in every instance. In this series rupture of the ovarian sexual apparatus occurred most frequently in young women up to twenty-five years of age and most often on the right side. Correlation between ruptured Graafian follicle and corpus luteum with bleeding and the menstrual cycle is mentioned. Similar quantities of blood loss were noted in both Graafian follicle and corpus luteum rupture. It is suggested that when the diagnosis of lower abdominal conditions warranting surgery in the female is in doubt either right rectus or midline incisions should be made, so that visual inspection of the internal genitalia may be accomplished. Abstracts of five unoperated cases diagnosed rupture Graafian follicle with slight intra-abdominal hemorrhage, but not proved, are presented. A case of ruptured left corpus luteum with hemorrhage complicated by incomplete intra-uterine abortion is reported.

OPHTHALMOLOGY

By ROBERT J. WARNER, M.D.
Doctors Building, Nashville

Treatment of Trachoma with Sulfanilamide. P. Richards, W. G. Forster, and P. Thygeson. *American Journal of Ophthalmology*, August, 1939.

The results of treatment of twelve Indian children, all showing active trachoma with follicular hypertrophy and pannus, are recorded and tabu-

lated. All showed marked improvement, and at the end of four and one-half months the conjunctiva in each instance had become follicle-free and smooth. There was a disappearance of corneal infiltrates and an apparent arrest of corneal activity in all but one eye. Two untreated children used as controls showed no improvement during the period of observation, but improved rapidly when sulfanilamide therapy was instituted. This treatment caused a disappearance of the epithelial cell inclusion bodies.

ROENTGENOLOGY

By FRANKLIN B. BOGART, M.D.
Medical Arts Building, Chattanooga

The Evaluation of Roentgen Irradiation as an Adjunct in the Treatment of Acute Otitis Media. A. H. Dowdy, C. A. Healy, and W. W. Pierce. *Radiology*, Vol. 32, No. 6, p. 661, June, 1939.

Report of results obtained in treating thirty cases of acute otitis media with roentgen ray.

The same rationale exists for the use of X-ray in acute otitis media as in all other acute infections. As pointed out by Desjardins in several recent articles, the effect of X-ray in the leukocytes that are present in all types of acute infection is to destroy these cells, first the lymphocytes and later the polymorphonuclears. Subsequently there is a stimulation of phagocytosis. A decrease in the congestion and swelling at the site of the infection following irradiation relieves pain and facilitates drainage. No temporary increase in swelling and pain has been noted in these cases, although it has been reported in other types of infection. The type of discharge remains thin or becomes so after irradiation. This results in adequate drainage of the middle ear cavity. With reduction of congestion, the eustachian tube becomes more patent, thus adding to the patient's comfort.

The material presented consists of thirty cases of acute otitis media; fifteen classified as catarrhal and fifteen purulent otitis media, all of whom received roentgen therapy. Twenty-six cases were used as controls who were treated in the usual manner and without using X-rays. All of the twenty-six controls were classified as purulent otitis media and were divided into uncomplicated and complicated cases. In the group, which received X-ray therapy, all the usual procedures were also carried out and X-ray was used as an adjunct.

Of the fifteen cases of acute catarrhal otitis media, myringotomy was necessary in only one case after irradiation. In the fifteen cases of purulent acute otitis, there were no complications, and in the other four, mastoiditis was present. In most cases, the irradiation relieved the symptoms and seemed to shorten the duration of the disease.

RADIATION TECHNIC

One hundred r was delivered to the involved side, or to both sides if both were involved. Two hundred kilovolts, twenty-five milliamperes, fifty centimeters distance, .485 copper, and one aluminum millimeter filters were the factors used. The size of the port varied, but was sufficient to include the ear, mastoid region, and posterior nasopharynx. Most cases required only one treatment (twenty-five cases). If the condition responded slowly and immediate surgery was not indicated, a second treatment was given in forty-eight to seventy-two hours (five cases).

CONCLUSIONS

1. Thirty cases of acute otitis media treated with one or more doses of 100 r and twenty-six unirradiated controls are analyzed in this preliminary report.

2. Even in these small doses, the irradiation seemed to be of distinct value in relieving the acute symptoms and in shortening the course of the disease. The average duration of the disease for the acute, purulent, uncomplicated cases was shortened six days, while that of the complicated cases was shortened sixteen days. The clinical improvement when the treatment is effective is much more striking than these figures would indicate.

3. The incidence of surgery was apparently reduced.

4. The treatment seems to us a conservative method, since it does not interfere in any way with other forms of treatment if they become necessary, and it causes no permanent damages with this dosage. As with the other forms of treatment, better results are obtained in the early stages of the disease.

SURGERY—GENERAL AND ABDOMINAL

By BATTLE MALONE, II, M.D.
1400 Monroe Avenue, Memphis

Head Injuries. Alfred W. Adson, M.D. *Southern Medical Journal*, September, 1939.

Almost every physician at some time is called in to administer to a person who has sustained a severe craniocerebral injury. All writers on cranial injuries agree that the patient with such an injury should first be treated for shock, and that debridement should be employed for scalp, skull, and cerebral injuries. There is some dispute in regard to the management of increased intracranial pressure. The author divides the discussion of treatment of head into emergency treatment, convalescent treatment, and treatment of posttraumatic sequelae.

When the patient is first seen the extent of the head injury and of injuries to other parts of the body should be determined if possible, observing the mental status, whether temporarily unconscious

or in deep coma. Occasionally following an apparently mild injury with a short period of unconsciousness the patient after several hours becomes comatose from intracranial hemorrhage. Hence, hospitalization for forty-eight hours is advisable in all cases. When there has been a brain injury the picture of general shock may be modified by the early signs and symptoms accompanying cerebral injury. The pulse may be slow and full instead of weak and thready. Respiration may be stertorous and the blood pressure may be high instead of low as is seen in general shock. When the pulse slows to sixty or below it indicates increasing intracranial pressure. If medullary compression takes place the pulse and respiration both become rapid. Blood pressure readings should be taken frequently.

In treating shock of either type external heat is applied, skeletal fractures are temporarily supported and stimulants are administered. In cases of severe hemorrhage blood transfusions are given. As the patient recovers from the shock a general examination is made as well as a neurologic examination. Important findings are noted such as the condition of the pupils, a flaccid or spastic paralysis, reflexes and hemorrhage from the ear or nose. Roentgenologic examination is important. Sedatives are given if necessary, but morphine is contraindicated. If a general anesthetic is necessary for operative procedures the intravenous type is best. In lacerations of the scalp and compound fractures, the surrounding hair is shaved and debridement is done, removing foreign material, spicules of bone and intracerebral clots by aspiration. For cleansing compound wounds an aqueous mercurial germicide is used. Hemostasis and closure are carried out and the patient returned to his room to receive continued treatment for shock.

In controlling intracranial pressure spinal drainage is advisable if the symptoms warrant it. Dehydration is effected by limiting fluids, magnesium sulphate by enema and intravenous fifty per cent glucose. Temporal decompression may be resorted to if other measures fail to lower the intracranial pressure. In cases of continued unconsciousness feeding is carried out with a Rehfuß tube. Barbiturates are given for restlessness.

Headache, dizziness, weakness, and nervousness may occur if a patient is allowed to leave the hospital too soon. Return to regular work should not be permitted for from six to twelve weeks and the patient should rest and sleep several hours during the day. Physical therapy and graduated exercises are helpful in rehabilitation.

Of the posttraumatic sequelae discussed are suppurative wounds and cerebral abscesses. If a wound becomes infected the stitches should be removed and the wound irrigated with an antiseptic solution. Cerebral abscesses are best drained at the site of injury. Headache and dizziness may persist for six months to two years. Limiting

fluids, giving saline laxatives and acetylsalicylic acid usually control these symptoms. Cerebrospinal fistulas and arteriovenous fistulas require surgical repair. Epilepsy as a sequela may be relieved by surgical removal of scars or traumatic cysts, but the results are often disappointing.

UROLOGY

By TOM R. BARRY, M.D., F.A.C.S.

By G. A. WILLIAMSON, JR., M.D.

Medical Building, Knoxville

The Use of Sulfanilamide Powder Locally in the Treatment of Chancroid. R. J. Fields, M.D., and J. J. Weinstein, M.D. *Urologic and Cutaneous Review*, December, 1938.

There were seven cases of penile lesions in this series. The usual procedures for diagnosis of chancroids were performed, such as clinical appearance, dark field, Frei test biopsy, etc. Four of the cases had had the usual standard method of treatment for from two weeks to four months before sulfanilamide was started. They were cured in ten to twenty-nine days under local sulfanilamide therapy. Three cases which had not received any treatment were placed on sulpranilamide therapy immediately.

The technique consisted of cleaning the infected area with warm saline solution, and then dusting the lesion with the pure sulfanilamide powder. This was done four times daily. No unusual discomfort of treatment was noted.

The average time of treatment under the old regime was from three to six months, while with local sulfanilamide therapy, it was from one to four weeks.

Although the number of cases in this report are small, the results obtained are promising.

BOOK REVIEWS

Do You Want to Become a Doctor? Morris Fishbein, M.D. Frederick A. Stokes Company. \$1.50. 176 pages.

This book might well be called the pre-med student's Bible. It is not often that a book treats so clearly and concisely such topics as the qualifications of a doctor; pre-med and medical education as to requirements and costs; internship; beginning of practice; the accessory professions; the future and contributions of medicine to public welfare; and others.

The eleven chapter heads are as follows:

I—Medical Education Today

Increasingly high standards; medical specialties; the hospitals; the physician and the law; the business of medical practice; associated medical careers.

II—Preparation for Medical School

Accredited school; courses to be taken; requirements in Canada; comparative results from pre-medical education by colleges; students' fate; selection of young men; fitness for the study of medicine; the negro student; the Jewish student; aptitude and similar tests; conclusion.

III—Choice of a Medical School

Primary requisites; length of medical course; two-year courses; numbers of medical students; description of medical colleges.

IV—Cost of Medical Education

Essentials; recreation; total expenditure; cost to medical schools.

V—The Internship

General purpose; essentials in a hospital approved for training interns; types of internships; the work of the intern; the conduct of the intern; the length of the internship; compensation of interns; the intern and the law.

VI—State Licensing Examination

Requirements vary; medical cultists' boards; the basic-science boards; the National Board of Medical Examiners; citizenship; licensure requirements; the function of licensure.

VII—The Specialist

Relative importance; examining boards; qualifications of candidates; list of examining boards; qualifications of the specialist; distribution of specialists.

VII—On Beginning Practice

Professional agencies; salaried positions; finding a location; urban practice; professional contacts; the business side of medical practice; office and equipment.

IX—The Accessory Professions

Clinical; laboratory technicians; physical; therapy technicians; occupational therapy; other associated medical occupations.

X—The Future of Medical Practice

Evolution and revolution; controlled experiments; the general practitioner and preventive medicine; the trend of private practice; how medicine is cooperating in economic evolution; progress in the future.

XI—The Contribution of Medicine to Public Welfare

Health and human advancement; changes in medical education; medical ethics; the rise of public health services; medicine in industry; medicine and war; medicine and government; the medical industry; the future of medicine.

Any student thinking of taking pre-med in college, pre-med and med students, and those interested in the accessory professions should by all means read this book. By doing so they will obtain

a better knowledge about the field which they wish to enter.

This book would be a well-worth addition to every high school, college, and medical school library.

W. P. H.

New and Nonofficial Remedies, 1939, Containing Descriptions of the Articles Which Stand Accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1939. Cloth. Price, postpaid, \$1.50. pp. 617—LXVII. Chicago: American Medical Association, 1939.

Each year a revised list of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association as of January 1 is published in book form under the title of "New and Nonofficial Remedies." The book contains the descriptions of acceptable proprietary substances and their preparations, proprietary mixtures if they have originality or other important qualities, important nonproprietary nonofficial articles, simple pharmaceutical preparations, and other articles which require retention in the book.

A list of articles and brands accepted by the council, but not described, is included in the book to cover simple preparations or mixtures of official articles (U. S. P. or N. F.) marketed under descriptive, nonproprietary names for which only established claims are made. Diagnostic reagents which are not used in or on the human body and protein diagnostic preparations are not included in "New and Nonofficial Remedies" unless the determination of the status of these products by the council has been requested by the distributor. If such products are found to be marketed in accordance with the council's rules, they may be included in the list of undescribed, but acceptable articles.

A supplement to the annual volume of "New and Nonofficial Remedies" is published twice a year to bring up to date such current revisions and additions as have been necessary since its last publication. Every product included in the book is subject to the official rules of the council. The comments to rules are changed occasionally by way of clarifying interpretation to insure fair consideration of all submitted preparations as new standards are recognized. Such constant and critical consideration of its contents provides the physician with a valuable reference list of acceptable new preparations on which to base his selection for use in treatment according to the established current practices of the profession.

"New and Nonofficial Remedies" for 1939 omits many articles which appeared in the publication for 1938. A few of these have been omitted by action of the council because they conflict with the rules that govern the recognition of articles or because their distributors did not present convincing evidence to demonstrate their continued eligibility. Among these are: biliposol, serobacterins, and suppositories salyrgan. A considerable num-

ber of others have been omitted as being off the market.

The 1939 "New and Nonofficial Remedies," of course, contains the revisions which appeared in the supplements for the 1938 edition, and continues the plan of grouping together articles having similar composition or action under a general discussion. These discussions have undergone considerable revision in the 1939 edition. Further revision of statements regarding the actions, uses, dosage, composition, purity, identity, strength or physical properties of many of the articles has also been necessary in some cases. Noteworthy revisions are: anesthetics, local; bismuth compounds, organs of animals; vitamins and vitamin preparations and liver and stomach preparations.

The indices of the new volume of "New and Nonofficial Remedies" are of the same order and plan as in previous editions. A general index lists accepted articles, including those not described. This is followed by an index to distributors in which appear all the council accepted articles listed under their respective manufacturers. Finally a bibliographical index is added for listing proprietary and unofficial articles not included in "New and Nonofficial Remedies." This includes references to the council publications concerning each such article as has appeared in *The Journal of the American Medical Association*, "Reports of the Council on Pharmacy and Chemistry, Propaganda for Reform," Vols. 1 and 2, or "Reports of the American Medical Association Chemical Laboratory."

Annual Reprint of the Reports of the Council on Pharmacy and Chemistry of the American Medical Association for 1938. Cloth. Price, \$1.00. pp. 120. Chicago: American Medical Association, 1939.

This volume as usual contains noteworthy examples of the various kinds of reports made by the Council on Pharmacy and Chemistry: (1) preliminary reports; (2) supplemental reports on therapeutic or pharmacologic problems; (3) reports on the rejection of preparations offered for the council's consideration.

Among the preliminary reports in this volume that on sulfapyridine, which carries a special article by Dr. Perrin H. Long, a council member who has been much concerned with the work on this drug, is perhaps of greatest interest. After the Food and Drug Administration had released the drug for the use of physicians early in 1939, the council accepted various brands for inclusion in "New and Nonofficial Remedies" and in connection with the published descriptions issued another status report (*Journal of American Medical Association*, 112: 1830, May 6, 1939) based on a questionnaire sent to men who had been prominent in the experimental use of the drug. This report, no doubt, will appear in the next volume of reprinted council reports. Other preliminary reports

are the following: allantoin, a preparation of glyoxyldiureid purposed to supersede the use of surgical maggots, and sulfanpyridine, published shortly before the council acceptance of this new chemotherapeutic drug.

Among the supplemental (or status) reports are those on colloidal sulphur in the treatment of chronic arthritis, showing that much confirmatory evidence is needed to establish the value of this therapy; on ergonovine, a careful study of the relation of this newly-discovered principle to ergot therapy in general; and on picrotoxin in poisoning by the barbiturates, showing the promise and the present limitations of this antidotal therapy.

Among the reports of rejection the following are noteworthy: collodaurum, a "colloidal gold" preparation, promoted with unwarranted, exaggerated and misleading claims for its use in the treatment

of cancer; Dermo-G, stated to be a mixture of spermaceti, white wax, oil of sweet almonds, sodium borate, precipitated sulphur and water, an unscientific and superfluous mixture marketed under a therapeutically suggestive name with exaggerated, unwarranted claims; Fru-T-Lax, a needlessly complex and unscientific mixture advertised to the public under a misleading and inadequately descriptive name with claims which are unwarranted; and hyposols sulisocol, claimed to be "sulphur colloid" in two cubic centimeters of "autoisotonized solution," exploited for use in arthritis with inadequate evidence of its therapeutic value. Other rejections are explained in the reports on map and myoston, nupercainal—"ciba," pulvoids sulfanilamide, and sodium bicarbonate (The Drug Products Company, Inc.), quinoliv, sedormid, and tri-cos-tivin.

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CLINICAL AND EPIDEMIOLOGICAL FEATURES AND DIFFERENTIAL DIAGNOSIS OF ROCKY MOUNTAIN SPOTTED FEVER AND ENDEMIC (MURINE) TYPHUS FEVER*

L. L. LUMSDEN, M.D., and C. B. TUCKER, M.D., Nashville

THE FIRST two cases diagnosed and reported as Rocky Mountain spotted fever in Tennessee were in Dickson County. Four other cases, one from Williamson County, one from Davidson County, and two from Maury County, were reported in that year. One case was reported in 1932; four in 1933; three in 1934; one in 1935; four in 1936; nine in 1937; and eight in 1938.

On September 15 twenty-one cases have been reported in 1939. In addition to those reported this year, four other cases have been under suspicion, one of which terminated fatally and was reported to have presented certain clinical and epidemiological features very suggestive of this disease.

Since the first case was recognized in 1931, cases have been reported from the following counties: Bedford, Blount, Bradley, Campbell, Cannon, Carter, Claiborne, Davidson, Dickson, Fentress, Gibson, Giles, Grainger, Hamilton, Jackson, Knox, Lawrence, Lincoln, Maury, Rutherford, Sullivan, Sumner, Union, Washington, and Williamson. Only one case has been reported from a county (Gibson) west of the western loop of the Tennessee River. Approximately twice as many cases have been reported

from Middle Tennessee as from East Tennessee.

Since 1935 thirty-four cases of endemic typhus fever have been reported in Nashville. This city appeared to be the only focus of the infection in Tennessee until 1939, when cases of local origin were found in Lebanon.

During the present year investigations have been made on all cases reported either as Rocky Mountain spotted fever or as endemic typhus fever. Of twenty-five cases reported as typhus fever, six were clinically and epidemiologically Rocky Mountain spotted fever. In three instances the reporting of these cases was based on the findings of an agglutination with *Proteus* X¹⁹ in low dilutions without clinical or epidemiological evidence to substantiate the diagnosis. Of the other sixteen cases reported, five occurred in Nashville and eleven in Lebanon and its vicinity in Wilson County, and all were clinically and epidemiologically endemic typhus fever.

As yet there have been established only two foci of endemic typhus fever infection in Tennessee—one in Nashville and the other in Lebanon. It is evident, however, that we have in this state a number of widely scattered foci of Rocky Mountain

*From the Division of Preventable Diseases, Tennessee Department of Public Health.

spotted fever in the tick-infested rural areas.

With a view to aiding in the recognition of these diseases, which appear to be of comparatively recent occurrence in Tennessee, and especially in differentiating one of them from the other, the following outline¹

of the main clinical, serological, and epidemiological features is submitted:

¹Most of the data in this outline are derived from the findings of Dr. R. E. Dyer and his coworkers in the National Institute of Health who were the first to recognize and to differentiate Rocky Mountain spotted fever and endemic typhus fever in our eastern states.

ONSET

ROCKY MOUNTAIN SPOTTED FEVER

1. Rather sudden onset often with chills or chilly sensations, headaches, and rapidly rising temperature.

2. Temperature may have daily fluctuations, often reaching 105° Fahrenheit, but seldom getting to normal at any time. Usually continues for fifteen to twenty-two days or until death.

ENDEMIC TYPHUS FEVER

1. Same except headache and insomnia may be outstanding symptoms.

TEMPERATURE

2. Temperature range about the same. Often terminates by crisis usually between the twelfth and fourteenth days.

SKIN ERUPTION

3. A rash usually appears three to five days after onset, nearly always first on the wrists and ankles. It usually becomes generalized and occurs frequently on the face, palms, and soles. It is macular and the macules are from two to six millimeters in diameter. The macules at first are of faint roseolous type, growing more distinct from day to day and by the middle of the second week are definitely petechial in all but mildest cases. Many subsequently may become confluent. In some cases a good many of the lesions are slightly papular. Evidence of the rash often persists for several weeks in the form of dusky purplish or yellowish brown spots. A branny desquamation following defervescence occurs frequently.

3. A rash usually appears on the fourth to sixth days after onset, first on the chest and abdomen. It is usually macular and confined to the chest, back, abdomen, and medial surfaces of the extremities. Occasionally it becomes more generalized. It has never surely been seen on the face and only very rarely on the soles and palms. The macules are from two to three millimeters in diameter, rose to dark red in color, and usually do not become petechial. In some cases a good many of the lesions are slightly papular. The rash continues from two to nine days and is usually gone at the time of defervescence. Desquamation has not been seen to occur.

MENTAL AND NERVOUS SYMPTOMS

4. Delirium is common. Hyperesthesia and tremors are often noted.

4. Delirium is less common and is mild. Hyperesthesia and tremors are rare.

BLOOD SERUM REACTIONS

5. Agglutination with *Proteus* X¹⁰ but is absent in many cases. Agglutinins usually do not appear until the second week or later. In some cases agglutination occurs in high dilutions of over 1/1,000 or even 1/10,000.

5. Agglutinations with *Proteus* X¹⁰ practically always present in high dilutions. Agglutinins usually do not appear until the second week or later.

SEASONAL OCCURRENCE

6. Occurs in spring, summer, and fall months of the year.

6. Most common in summer and fall months. Cases have been seen as early as March in Tennessee.

AGE, SEX, RACE DISTRIBUTION

7. The disease is more common in white race than in the colored race, in males than in females, and in children than adults.

7. Same except it is more common in adults than in children.

ANIMAL RESERVOIRS

8. Various animals, including small rodents, may act as reservoirs, but what animals have not been proven.

8. The animal reservoir is the rat.

INSECT VECTORS

9. The vectors are ticks, *D. variabilis* in the East and *D. andersoni* in the West.

9. The common insect vector is the rat flea—*Xenopsylla Cheopis*.

MODES OF TRANSMISSION

10. Transmitted through bites of infected ticks or by crushing infected ticks on the body or between the fingers. 10. Transmitted by infected fleas.

INCUBATION PERIOD

11. Incubation period is believed to be between four and twelve days. 11. Incubation period generally considered to be about fourteen days.

RURAL OR URBAN INCIDENCE

12. The disease is one of rural areas. 12. Usually an urban disease.

CASE FATALITY RATE

13. The case fatality rates varies in different years and in different areas from fifteen to seventy per cent with an average rate of twenty-five per cent. 13. Fatality rate less than one per cent.

NOTE: In either of these diseases agglutination with *Proteus* X¹⁰ is not significant in titres below 1/160. Agglutination of the *Proteus* organism may occur in low dilutions (1/20, 1/40, 1/80) in many febrile conditions. When such a reaction occurs, a second blood for examination should be obtained a week later. It is advisable when even an agglutination of 1/160 is obtained that a second

examination be made for confirmation. In these diseases a positive in a higher dilution than 1/160 will ordinarily occur except in those cases of Rocky Mountain spotted fever in which no agglutination occurs. The use of *Proteus* X¹⁰ and *Proteus* X02 antigens has been found to be of no value in differentiating one of these diseases from the other.

A STUDY OF INFANT MORTALITY IN TENNESSEE, 1934-1937*

JOHN M. SAUNDERS, M.D., Director of Maternal and Child Hygiene, and RUTH R. PUFFER, Statistician, Tennessee Department of Public Health, Nashville

INFANT MORTALITY in Tennessee has decreased in the last few years, and in 1937 the rate of 60.7 per 1,000 live births was the lowest ever recorded for the state. However, this rate is still higher than it is for the United States Registration Area. The high infant death rate now prevailing in Tennessee is due to causes which for the most part are preventable.

A study of infant mortality for the four-year period, 1934-1937, was made to show what causes are responsible for this high rate. As variations in infant mortality occur from year to year, the data for four years have been used in order to understand the real problem in the state. The material used for the study was the data given on death certificates which are on file in the Division of Vital Statistics of the Tennessee

Department of Public Health. No attempt was made to do any special querying and all the death certificates recorded in the state for infants dying during this four-year period are included in the study.

There were 13,790 infant deaths recorded for this four-year period. Of this number 10,847, or 78.7 per cent, were deaths of white infants and 2,943, or 21.3 per cent, were deaths of colored infants.

Table I shows the number of infant deaths and the rate by color for each year included in the study and for the entire four-year period. The recorded rate for this period was 66.3 per 1,000 live births. The colored rate of 91.8 was higher than the white rate of 61.7 per 1,000 live births.

Since infant death rates are based on live births, the size of these rates is dependent upon the completeness of both birth and death reporting. The filing of birth certificates is important, not only for the individuals, but also for the accuracy of such data as are presented here.

Infant mortality has been studied by age groups, by groups of causes, and certain specific causes for which preventive measures are known, and by season of the year.

INFANT MORTALITY BY AGE GROUPS

The high infant death rate which now prevails in Tennessee is due to the high neonatal death rate as well as to a high rate among infants one to twelve months of age. The neonatal death rate of 34.7 per

CHART I

AVERAGE ANNUAL INFANT MORTALITY IN EACH MONTH OF LIFE, FOR THE FOUR YEAR PERIOD, 1934-1937, TENNESSEE.

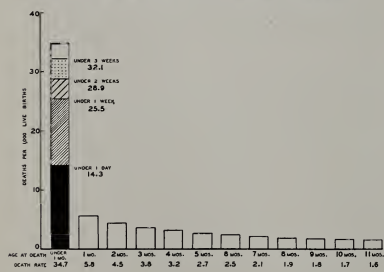


TABLE I

NUMBER OF INFANT DEATHS WITH RATES PER 1,000 LIVE BIRTHS, BY COLOR, FOR THE FOUR-YEAR PERIOD, 1934-1937

Year	Total		White		Colored	
	Number	Rate	Number	Rate	Number	Rate
1934	3,850	73.5	2,991	67.3	859	108.5
1935	3,362	63.2	2,672	59.5	690	83.0
1936	3,428	67.9	2,720	63.7	708	90.9
1937	3,150	60.7	2,464	56.1	686	85.3
Total period	13,790	66.3	10,847	61.7	2,943	91.8

*Read before the Tennessee State Medical Association, Jackson, April 11, 12, 13, 1939.

1,000 live births is over half of the total rate of 66.3; that is, over fifty per cent (52.3) of all the infant deaths occurred during the first month of life. Mortality among infants is shown according to the age at death in Table II. These mortality rates are shown graphically in Chart I.

TABLE II

INFANT DEATHS WITH AVERAGE ANNUAL DEATH RATES PER 1,000 LIVE BIRTHS BY AGE FOR THE FOUR-YEAR PERIOD, 1934-1937

Age	Number	Rate	Per Cent
Total	13,790	66.3	100.0
Total under one month	7,215	34.7	52.3
Under one day	2,983	14.3	21.6
One day to one week	2,323	11.2	16.8
One week to two weeks	711	3.4	5.2
Two weeks to three weeks	673	3.2	4.9
Three weeks to one month	525	2.5	3.8
One month	1,217	5.8	8.8
Two months	941	4.5	6.8
Three months	784	3.8	5.7
Four months	659	3.2	4.8
Five months	559	2.7	4.1
Six months	512	2.5	3.7
Seven months	446	2.1	3.2
Eight months	400	1.9	2.9
Nine months	384	1.8	2.8
Ten months	344	1.7	2.5
Eleven months	329	1.6	2.4

It is known that it is more difficult to prevent neonatal deaths than deaths of infants age one to twelve months. However, if infant mortality is to be substantially reduced, deaths in both groups must be prevented. Measures are now known whereby mortality among infants one to twelve months of age may be decreased to a large extent.

INFANT MORTALITY BY GROUPS OF CAUSES

When neonatal mortality and mortality of infants from one to twelve months of age are considered by cause as shown in Table III, the variations in the rates in the two age groups are found to be different for the various causes. The greatest cause of death during the first month was malformations and diseases of early infancy, which includes all natal causes and deaths said to be due to prematurity. Malformations and diseases of early infancy were responsible for 65.6 per cent of all neonatal deaths and only 8.9 per cent of all deaths, one to twelve months of age.

Over half of the deaths among infants one to twelve months of age were due to respiratory and gastrointestinal diseases (respiratory 28.9 per cent, gastrointestinal 26.3 per cent), the rates being 9.1 and 8.3 per 1,000 live births, respectively.

Chart II shows in graphic form mortality for the first month and for the first year of life by six groups of causes. The high rate among infants under one month of age further emphasizes the importance of natal causes and diseases of early infancy as an important factor in infant mortality. A program to further reduce infant mortality must be directed towards the reduction of neonatal deaths and those deaths due to gastrointestinal and respiratory diseases in infants from one to twelve months of age.

Infant deaths due to causes for which preventive measures are known have been studied in more detail. In the light of the knowledge gained from this study, plans

TABLE III

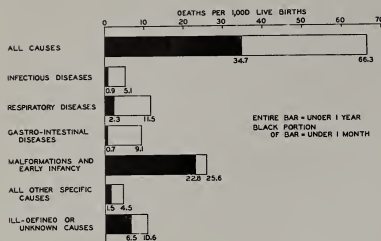
INFANT DEATHS WITH AVERAGE ANNUAL MORTALITY IN TWO AGE GROUPS, BY CAUSE, FOR THE FOUR-YEAR PERIOD, 1934-1937

	Number	Total			Under One Month			One Month to One Year		
		Rate	Pct.		Number	Rate	Pct.	Number	Rate	Pct.
All Causes	13,790	66.3	100.1		7,215	34.7	100.0	6,575	31.6	100.0
Infectious Diseases	1,055	5.1	7.7		187	0.9	2.6	868	4.2	13.2
Respiratory Diseases	2,384	11.5	17.3		486	2.3	6.7	1,898	9.1	28.9
Gastrointestinal Diseases*	1,884	9.1	13.7		156	0.7	2.2	1,728	8.3	26.3
Malformations and Early Infancy	5,324	25.6	38.6		4,736	22.8	65.6	588	2.8	8.9
All Other Specific Causes	933	4.5	6.8		303	1.5	4.2	630	3.0	9.6
Ill-defined or Unknown Causes	2,210	10.6	16.0		1,347	6.5	18.7	863	4.1	13.1

*Deaths from dysentery are included.

CHART II

AVERAGE ANNUAL MORTALITY IN THE FIRST MONTH AND IN THE FIRST YEAR OF LIFE, BY CAUSE, FOR THE FOUR YEAR PERIOD, 1934-1937; TENNESSEE



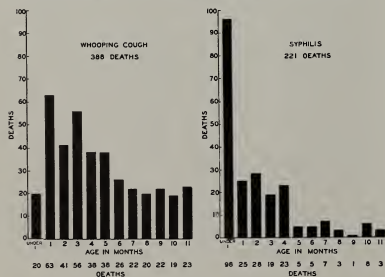
may be made to prevent these deaths in the future.

INFANT DEATHS DUE TO SPECIFIC INFECTIOUS DISEASES

Deaths due to whooping cough, syphilis, measles, and diphtheria accounted for 72.4 per cent of all the deaths due to infections. The numbers of deaths due to syphilis and whooping cough by age are shown in Chart III. Over three-fourths (168) of the 221 deaths due to syphilis during the four years occurred among infants under four months of age. Deaths under one month outnumbered those for all other months. Similarly, whooping cough was most fatal in very young infants, 256 of the 388 deaths occurring under six months of age. In this age group there were more deaths from whooping cough than from any other communicable disease.

CHART III

INFANT DEATHS FROM WHOOPING COUGH AND SYPHILIS, BY AGE AT DEATH, FOR THE FOUR YEAR PERIOD, 1934-1937; TENNESSEE



Diphtheria was the assigned cause for fifty-seven infant deaths and measles for ninety-eight. Some of these diphtheria deaths occurred in infants under six months of age. According to the International List of Causes of Death, croup when not said to be nondiphtheritic must be assigned to diphtheria. It is well known that nondiphtheritic croup is a frequent cause of death among small babies, and some of these deaths may have been due to nondiphtheritic croup.

Similarly, one may speculate about the large number (fifty-three deaths of a total of ninety-eight) of deaths under six months of age assigned to measles. Should some of these deaths be assigned to syphilis?

Deaths due to syphilis and diphtheria are preventable. All deaths due to syphilis may be prevented by adequate antisyphilitic treatment during prenatal life. Also, diphtheria deaths may be prevented, for we have a definite immunizing agent against the disease.

It may be that all deaths due to whooping cough and measles are not preventable, but every effort should be made to prevent exposure of small children to these diseases. Immunization against whooping cough must be given early in life if it is to be effective in preventing deaths under six months of age. Immunization of older children may prevent them from having the disease and bringing it home to their younger brothers and sisters.

INFANT DEATHS DUE TO ACCIDENTS

During the four years, 191 infants' deaths were assigned to accidents other than accidents occurring during labor and delivery. Approximately one-third of these deaths were due to mechanical suffocation as is shown in Table IV. This cause was responsible for more of these accidental deaths than any other cause, and the proportion was relatively higher among infants under one month than among infants one to twelve months of age. Certainly these deaths are preventable, and one of the reasons for a separate bed for the infant is to prevent these accidental deaths. The percentages of deaths due to burns, falls, and foreign

TABLE IV

INFANT DEATHS FROM ACCIDENTS BY CAUSE IN TWO AGE GROUPS FOR THE FOUR-YEAR PERIOD, 1934-1937

Cause	Total		Under One Month		One Month to One Year	
	Number	Pct.	Number	Pct.	Number	Pct.
Total	191	99	64	100	127	99
Burns	27	14	2	3	25	20
Mechanical Suffocation	61	32	25	39	36	28
Falls	10	5	2	3	8	6
Foreign Bodies	14	7	2	3	12	9
Others	79	41	33	52	46	36

bodies were higher among infants one to twelve months of age than among infants under one month, which may be an index to the relative hazards that infants of the different age groups are subject to. These deaths are also preventable. Provisions should be made to prevent children from falling into the fire or into hot water, and no child should be allowed to eat or play with objects which he might aspirate.

INFANT DEATHS STATED AS DUE TO PREMATURETY

Approximately half of all infant deaths occur within the first month of life and nearly half (40.5 per cent) of these neonatal deaths are said to be due to prematurity. Table V shows the number and percentages of infant deaths said to be due to prematurity by age. These deaths accounted for 22.2 per cent of all the infant deaths during this four-year period. Deaths said to be due to prematurity accounted for only 2.1 per cent of the deaths among infants one to twelve months of age.

All deaths due to prematurity are not preventable. However, effort should be made to prevent the occurrence of premature births and whenever they do occur every effort should be made to give the premature infant the best possible care.

SEASONAL VARIATION IN INFANT MORTALITY

The seasons of the year influence infant mortality as is shown in Table VI and Chart IV. For all infant deaths, the rates are lower in the spring (April and May) and in the fall (September, October, and November) of the year.

For neonatal deaths, there is a gradual decline in the rate from January to late fall and then a slight rise during December.

CHART IV

AVERAGE ANNUAL INFANT MORTALITY IN CERTAIN AGE PERIODS, BY CALENDAR MONTH OF DEATH, FOR THE FOUR YEAR PERIOD, 1934-1937: TENNESSEE

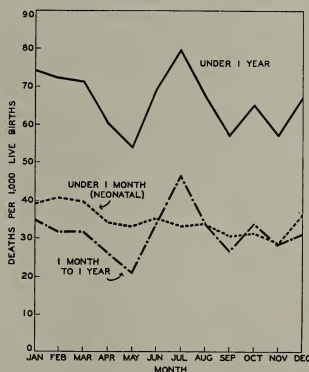


TABLE V

NUMBER AND PERCENTAGE OF INFANT DEATHS STATED AS DUE TO PREMATURETY IN TWO AGE GROUPS FOR FOUR-YEAR PERIOD, 1934-1937

	Total		Under One Month		One Month to One Year	
	Number	Pct.	Number	Pct.	Number	Pct.
Total	13,790	100.0	7,215	100.0	6,575	100.0
Premature	3,062	22.2	2,925	40.5	137	2.1
Others	10,728	77.8	4,290	59.5	6,438	97.9

TABLE VI

TOTAL INFANT DEATHS WITH AVERAGE MONTHLY RATES PER 1,000 LIVE BIRTHS, BY CALENDAR MONTH AND IN TWO AGE GROUPS, FOR THE FOUR-YEAR PERIOD, 1934-1937

Month	Total		Under One Month		One Month to One Year	
	Number	Rate	Number	Rate	Number	Rate
Total	13,790	66.3	7,215	34.7	6,575	31.6
January	1,286	74.2	682	39.3	604	34.8
February	1,253	72.3	706	40.7	547	31.6
March	1,237	71.4	690	39.8	547	31.6
April	1,047	60.4	592	34.1	455	26.2
May	937	54.0	573	33.1	364	21.0
June	1,198	69.1	612	35.3	586	33.8
July	1,382	79.7	576	33.2	806	46.5
August	1,174	67.7	587	33.9	587	33.9
September	994	57.3	532	30.7	462	26.6
October	1,129	65.1	543	31.3	586	33.8
November	991	57.2	497	28.7	494	28.5
December	1,162	67.0	625	36.1	537	31.0

However, there is very little change in the neonatal rates throughout the year. This is probably due, in part, to the fact that the majority of neonatal deaths are caused by malformations and diseases of early infancy, which are not influenced by season of the year. The slightly higher rates during the winter months may be a result of environment and subsequent infections.

On the other hand, death rates for infants one to twelve months of age are highest during the winter months and the very hot months of summer, the rate during the summer (July) being higher than at any other time of the year.

When this seasonal variation in the death rate of infants one to twelve months of age is studied by cause, it is found that there is a marked difference in seasonal distribution of deaths from gastrointestinal and respiratory diseases. Respiratory diseases are responsible for the high rates during the colder months of the year with minimal rates during the summer. On the other hand, rates from gastrointestinal diseases are extremely high during the summer months, ranging from a low rate of 0.9 per 1,000 live births in February to a rate of 26.6 in July. This is shown in Table VII and Chart V. Nearly two-thirds (65 per cent) of the deaths from respiratory diseases in this age group occurred during five winter months, January, February, March, November, and December. Over half (62.2 per cent) of the deaths from

gastrointestinal diseases occurred during the hot months of the year, June, July, and August. The reduction of deaths from these two diseases alone would cause a striking decrease in mortality of infants one to twelve months of age.

CHART V

AVERAGE MONTHLY DEATH RATES PER 1,000 LIVE BIRTHS OF INFANTS ONE MONTH TO ONE YEAR OF AGE, BY CALENDAR MONTH OF DEATH, FOR THE FOUR YEAR PERIOD, 1934-1937: TENNESSEE

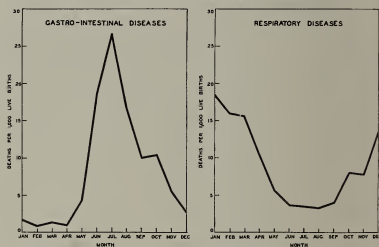


TABLE VII

DEATHS FROM GASTROINTESTINAL AND RESPIRATORY DISEASES OF INFANTS ONE MONTH TO ONE YEAR OF AGE WITH AVERAGE MONTHLY RATES PER 1,000 LIVE BIRTHS BY CALENDAR MONTH OF DEATH FOR THE FOUR-YEAR PERIOD, 1934-1937

Month	Gastrointestinal Diseases		Respiratory Diseases	
	No.	Rate	No.	Rate
Total	1,728	8.3	1,898	9.1
January	29	1.7	321	18.5
February	16	0.9	278	16.0
March	25	1.4	271	15.6
April	17	1.0	181	10.4
May	73	4.2	97	5.6
June	320	18.5	62	3.6
July	462	26.6	60	3.5
August	292	16.8	57	3.3
September	173	10.0	69	4.0
October	179	10.3	138	8.0
November	95	5.5	134	7.7
December	47	2.7	230	13.3

Practically all of the deaths due to gastrointestinal diseases are preventable. Even though all of the respiratory deaths are not preventable, some of the deaths from this cause could be prevented.

SUMMARY

1. The 13,790 recorded infant deaths in Tennessee for the four-year period, 1934-1937, have been studied. The recorded infant death rate for this period was 66.3 per 1,000 live births.

2. Over fifty per cent (52.3 per cent) of the infant deaths occurred during the first month of life.

3. Malformations and diseases of early infancy were responsible for the majority of the neonatal deaths, whereas gastrointestinal and respiratory diseases were the chief causes of death among infants one to twelve months of age.

4. Syphilis, whooping cough, diphtheria, and measles were responsible for 72.4 per cent of all the deaths due to infections.

5. Accidents other than those occurring at the time of delivery were responsible for 191 infant deaths during these four years. Approximately a third (32 per cent) of these accidental deaths were due to mechanical suffocation.

6. Prematurity was said to be the cause of 22.2 per cent of all infant deaths during this four-year period, 40.5 per cent of neonatal deaths and 2.1 per cent of the deaths of infants one to twelve months of age being due to prematurity.

7. For all infant deaths, rates are lower in the spring (April and May) and in the fall (September-November) of the year. The rates for neonatal deaths are practically the same throughout the year, with a slight increase during the winter months, whereas death rates for infants one to twelve months of age are highest during the winter and the very hot months of summer.

8. Death rates from respiratory diseases among infants one to twelve months of age show striking increases during the cold months of the year, whereas the rates from gastrointestinal diseases are very high during the summer.

DISCUSSION

DR. ARTHUR G. QUINN (Memphis): A statistical study is usually uninteresting to the clinicians, but the information derived from this study is of immeasurable value in focusing attention to the particular morbid conditions that are giving trouble.

Impressions gained in our daily work are quite often found erroneous after such a study as Dr. Saunders has given us.

In 1932 at the John Gaston Hospital we began classifying our diagnoses according to groups; that is:

- Group 1—Well infants
- Group 2—Developmental anomalies
- Group 3—Traumatic conditions
- Group 4—Metabolic disturbances
- Group 5—Infectious diseases
- Group 6—Miscellaneous conditions

All diagnoses were made after a careful study of each case. They were grouped according to whether the infants were born of toxemic mothers or nontoxemic; also as to whether or not the mother had syphilis. We found that among our infants these two conditions were not an important predisposing factor in morbidity and mortality except in grade four toxemias.

Following the classifications as given above we were able to very definitely show where our morbidity and mortality occurred. As Dr. Saunders has pointed out prematurity is the big factor in infant mortality, but it is not the sole factor. We found that among developmental anomalies there is not much that can be done to lower morbidity and mortality.

We have definitely affected the mortality in the traumatic conditions by lowering the number of these cases, although it seems that the treatment of these conditions is not affected. We have very definitely been able to lower the morbidity and mortality among the infectious diseases and miscellaneous conditions.

According to our classification no doubt some of our miscellaneous diagnoses such as "undetermined" could fall into the infectious diseases or traumatic conditions, but there was not sufficient evidence to warrant either grouping.

As a result of our studies and work we have brought our mortality in 1937 and 1938 down to the level that Dr. Saunders shows in his four-year period.

The high mortality we had in 1933 and 1934 was due to an epidemic of infectious diarrhea in which the mortality was very high.

Using the same classification of morbid conditions in the premature infants, in spite of a steady increase in the number of premature infants and no apparent decrease in the morbid conditions, we have lowered our mortality for the period 1933 to 1938 from sixty-two per cent down to twenty-nine per cent.

The diseases that increased mortality we have been able to reduce by the use of good nursing personnel and environmental factors and more careful feeding of both mature and premature infants. Among the infectious and miscellaneous conditions we have put all conditions due to feeding in the metabolic classification because we feel that mass feeding of newborn infants can be a predisposing factor in mortality among both premature and mature infants as Dr. Saunders points out.

DR. J. C. OVERALL (Nashville): Mr. Chairman, Members of the Society: In discussing this paper Dr. Quinn has taken the group up to one month, and I am attempting to bring out some practical points in the group from one month on. I have the advantage of him there in that, from the standpoint of what you can do about it, the group from one month on is decidedly the best group to work for. This is brought out very strikingly from the statistics in the State of New York. Over the twenty-year period from 1915 to 1935, in their infant mortality statistics, in the group under one month the mortality was reduced only from thirty-seven down to thirty per 1,000, while in the group from one month to one year, the mortality was reduced from sixty-five to twenty-one per 1,000. In other words, as regards reduction of mortality in the group under one month, we cannot say it is impossible, but certainly not a great deal of progress has been made over the past twenty or twenty-five years.

I think that we learn one lesson from statistics of his type in that we learn what our mistakes are, just as we would all profit by having all of our patients, when they die, autopsied. It sometimes may slap us in the face, but it will teach us a lot of valuable lessons, and if we will autopsy his report here we can get a few suggestions that I think will be of a great deal of practical value to us all.

The first group in his statistics that I wish to emphasize is the group of the infectious diseases. I wish mainly to emphasize that group because we have very definite specific measures for some.

Take whooping cough as an example. I think in this instance, although we do not have a preventive agent that is 100 per cent successful, it has certainly been shown that the inoculations against whooping cough are not harmful, and are giving somewhere around seventy-five per cent successful results in controlled series that have been reported within the past year or two. Of course the fact that so many of the whooping cough deaths occur under six months should lead us to give those inoculations to the very small child. A good many men over the country give those inoculations around three months of age, and divide those inoculations up into smaller doses, rather than give the same size doses that they do to older children.

In connection with syphilis, we used to be afraid to ask our patients for permission to make blood

tests. I think due to the publicity from various sources that this should not be a drawback now, and routine Wassermanns should be made on every mother who presents herself for care during her pregnancy. Of course if that routine Wassermann is taken and the proper sort of treatment is given to the mother, we should not have any deaths under the heading of syphilis.

Measles.—The immunizing there, although it is temporary, is certainly worth while using, and you don't necessarily have to use the commercial immunizing agent or placental extract. If you will use anywhere from fifteen to thirty cubic centimeters of either parent's blood (if they have had measles) within five to six days after exposure, you will find that in the large majority of the infants you can either prevent the measles or certainly minimize it to the extent that it will not produce the number of deaths quoted in these statistics. This can be given in the home by anyone with a twenty to thirty cubic centimeter syringe and the ability to boil and sterilize properly.

Diphtheria.—Even though there were a good many deaths under six months of age, Dr. Saunders felt that some of those that were put down as diphtheritic croup possibly would have been classified otherwise if cultures or direct laryngoscopic examinations had been done. Certainly with as simple and positive an immunizing agent as we have, we should be ashamed of ourselves to see the statistics that he brought out in regard to the diphtheria deaths, and don't try to lay the blame on the other man. I think we in private practice are too wont to criticize the Health Department for taking patients away from us in regard to inoculations. We may say: "Well, the Health Department is inoculating all the children." If we will look at ourselves we will find that that fault lies with us, because we are negligent in our duty, and not because the Health Department is forward in its duty. If you will stop and think back, the majority of you have to have the mother come in and ask for an inoculation before you will give it.

Dr. Saunders mentioned respiratory diseases and the infectious diarrheas as being two of the principal causes of death in the age group from one month to a year. Of course, the respiratory diseases, as he has said, we can do very little about unless possibly some of our new chemicals (especially sulfanilamide and sulfapyridine) are going to continue to work the miracles that they are being given credit for. The main thing, however, is to remove the infants as far as possible from exposure.

In the case of infectious diarrheas, we should make it an inviolable rule to boil everything until that child is one year of age. Regardless of whether we feel we have the very best milk and water, it will be safer to boil. We may find that some of the infections are being carried through these sources.

Then there is one other thing: I noticed that sixteen per cent of his deaths were classified as "unknown." I am not a pathologist, but I do feel that if we will ask in the right sort of way for autopsies, we will frequently be given permission. I am fortunate enough so far, even in private patients, to have been able to obtain better than fifty per cent post-mortems on my private patients, and I have never found any difficulty among reasonable people when I asked for an autopsy. If we are

going to help to improve these "unknown" statistics we have got to help get more autopsies. Most of us, whether we are in a town with a large hospital or not, are close enough so that there is a pathologist within a distance where we can get a reasonably good autopsy done.

I think we should congratulate Dr. Saunders on bringing these statistics to us, if we will just take advantage of them and learn our lesson thereby.

THE RELATIONSHIP WHICH SHOULD EXIST BETWEEN THE INDUSTRIAL PHYSICIAN AND THE PRIVATE PRACTITIONER OF MEDICINE*

C. F. N. SCHRAM, M.D., Kingsport

THE TOPIC implies that this relationship is not always that which it should be, but it is not my province or intent to enter into any controversy, but rather from my own experience to tell of some of the lessons I have learned on how to cooperate with the family doctors of the employees who have worked in the industries in which I have been, or at least have tried to be, a fellow employee. As you well know, it is part of the job of the industrial physician and surgeon to supervise a part of the health program of his fellow employees, and in this work, if the relationship between family physician and industrial physician is cooperative, much good can be accomplished. However, I am not here to give you platitudes.

I do not need to review the history of the development of industrial medicine from the "contract doctor" to the present time. I have known "contract doctors" who were just as ethical, honest, and hard-working as any other physician, and they often worked under conditions which made it almost impossible to render efficient service; but we do know that the faults of that system raised a question in the minds of many private practitioners as to whether or not the physician who entered upon an industrial career was just what he should be. I also know that physicians have used their industrial connections to build up a private practice with no thought of really serving in the industrial field.

Nevertheless, industry has a definite need for a physician's service and in the larger industries that need is being filled by men of the highest type, men who graduate from the best schools, who serve regular internships, and who are ethical.

A. M. Harvey, F. A. C. S., started with the Crane Company of Chicago in 1896, and

is the father of the present safety goggle and the leggings used in industry today. I will not attempt to enumerate the number of eyes that have been saved by the use of goggles nor the number of burns prevented by the use of leggings. L. A. Shoudy, F. A. C. S., of Bethlehem Steel, is another outstanding man who through his ethical development of the salt and dextrose tablet has saved an enormous loss through making heat prostration a rare industrial casualty. I could go on to give specific instances of the work done by Otto Geier of the Cincinnati Milling Machine Company; J. R. Garner of the Atlanta and West Point Railroad Company; Lloyd Nolan of the Tennessee Coal, Iron, and Railroad Company; W. A. Sawyer of the Eastman Kodak Company, Rochester, New York; Thomas Dobbins of Servel, Inc., Evansville, Indiana; R. B. Quinby of the Hood Rubber Company; Edward C. Holmblad of American Railways; and a host of others whom I could name and tell of their work, but it is unnecessary.

In citing these names and the incidents in the work of the first two, I have portrayed a part of the work of the industrial physician, which is in keeping with the best tenets of the practice of medicine in that it is preventive; and no greater calling has ever entered the mind of man.

There are in the nation over 1,200 industrial physicians; in the South there are eighty-three. Dr. J. R. Garner of Atlanta and I had charge of the medical part of the program at the first Southern Safety Conference held in Jackson, Mississippi, in February of this year. After Dr. Garner's talk, I am sure that no one present held any other idea than that good medical service was a part of any safety program irrespective of whether it be public safety or industrial.

Health maintenance is the industrial physician's principal endeavor: through pre-

*Read before the Tennessee State Medical Association, Jackson, April 11, 12, 13, 1939.

employment examinations, periodic re-examinations, the treatment of minor injuries and illnesses, the enforcement of public health regulations as they apply to the employees of the industry with which he is connected, and control of sanitation, lighting, and health hazards.

Pre-employment examinations are not made with the idea of ruling men out of employment, but with the idea of proper placement. The records of the modern medical department are as confidential as the ones in the private practitioner's office. The private practitioner tells his patient the findings on an examination and so do we, because an examination which reveals a curable or preventable condition is absolutely useless unless the patient's cooperation in the treatment is secured, and he or she cannot cooperate unless the facts are known to the patient. In very serious conditions I nearly always ask the family physician to state the findings for the reason that he knows the patient, the background, and the family history, and is better able to give the patient the necessary facts to secure wholehearted cooperation in treatment and yet not cause a depressive or discouraged state by telling too much.

The periodic examinations are also for the purpose of health maintenance and the discovery of pathologic conditions in their incipency.

The treatment of minor injuries and minor illnesses, the sanitation control, the supervision of lighting and control of health hazards—all are for the sole purpose of health maintenance.

It has been stated that during the first part of this century there was as much time lost from injury as from illness. Then the safety movement came into being as an organized effort. But the safety movement said: "Don't get hurt." It did not say: "Don't get ill." Time lost from shop injury has been reduced seventy-five per cent and now we have the anomalous condition of about one-half day per employee lost annually from shop injury and from eight to fifteen days lost from illness. Some say that this is all due to workmen's compensation laws which made injury expensive.

Perhaps, but do we want compensation laws to cover all illnesses? Dr. Lyman Fiske has stated that by the use of existing knowledge illness could be reduced ninety per cent. If we reach any such utopia among industrial employees, it will demand the closest co-operative effort. But if we ever approximate it amicably through working together, we may eliminate the greatest possible source of ill feeling, i.e., legal pressure.

C. D. Selby, M.D., Medical Consultant, General Motors Corporation: "While industry has no wish to assume responsibility for treatment, compensation acts have obligated employers to furnish treatments for occupational injuries and diseases. Naturally they expect their own doctors to render service and this is usually done. However, the industrial physicians of the type under discussion are moving steadily from surgery to preventive medicine, and the evolution is leaving them dependent upon consultants, who are in reality private practitioners. Incidentally, there is frequently much to be done by the plant physicians in behalf of employees discharged by consultants as cured before they can be placed satisfactorily back in industry.

"So with the exception of minor injuries and the occupational diseases, which are infrequent, and considering the fact that private practitioners treat the injuries in about eighty-five per cent of all industries, it is evident that the private practitioners are dominant in the care of sick and injured workmen. About all that the plant doctor actually does in this respect is to act as a clearinghouse and to correlate the services necessary to adequately care for employees for whom his management is responsible. In short, he acts as a case-finding agency.

"This trend on the part of industrial medicine to ally itself with private practice in the care of industrial patients should be encouraged. Industrial medicine is an honorable specialty of medicine. It is suggested that the general profession be made more cognizant of its ideals and objectives. As a means toward a better understanding, it is suggested that more medical societies follow the example of the New York State So-

ciety in organizing sections in industrial medicine."

The adjustment of this point of legal pressure is organized medicine's problem and not my individual one. In New York State they attempted to solve it by a law giving free choice from a panel who could qualify, and the county societies were asked to pass on qualifications. But they found that the ills of mankind that were alleged to have arisen due to occupation were so varied that no one physician, irrespective of how competent, could possibly render competent treatment service. It is now recognized that that which is needed is a clearing or consultation service, and the ethical industrial physician fits the picture. Curative medicine belongs to the private practitioner. The industrial physician must not run a free clinic in competition. His records should be available to the private practitioner for ethical use in the treatment of an ill or injured patient. The periodic examination records, the Wassermann or Kahn reports, chest X-rays, etc., are frequently very valuable to the physician in treating an employee, whom we have failed to keep well.

L. A. Shoudy, M.D., Chief of Medical Service, Bethlehem Steel Company: "Sometimes the employee expects too much, in that he expects the physician to care for ills which are not directly connected with the industry or to treat him for an accident which had no connection with his job. At times this presents a difficult situation, but the medical department of any industry should establish the fact that it is there only for the conditions arising in and out of the industry and if a man becomes ill on the job from another cause and it is necessary for him to leave the job, he should by all means be referred to his family physician and the physician in industry should cooperate with the family physician."

In a recent year in a plant in Tennessee employing that year an average of 4,500 employees, 840 patients were referred to their family physicians due to findings on physical examination, and the industrial physicians of that plant were called for bedside con-

sultation on about fifty patients by the family physicians.

I have mentioned only one possible source of friction in this article, and that one beyond the immediate control of the private practitioner or the industrial physician. I have outlined the industrial physician's job and that of the private practitioner and shown how the industrial physician can cooperate with the private practitioner, and the lines of their endeavors do not cross. They can parallel and always will as long as each is honest, conscientious, and ethical. They may disagree at times, but if they are game to work it out as per the rules of the American Medical Association, the relationship will be as it should. The method of pay has nothing to do with honesty, ethics, or laziness.

Irvin Abell, M.D., President of the American Medical Association: "Medical relationships in industry, as far as the individual physician is concerned, differ from ordinary practice in that the preventive aspects by reason of their clinical and technical complexity are more sharply set apart. In comparison, it can almost be said that industry has produced few new problems on the curative side. Nevertheless, so long as plants and workmen in good majority depend on part-time medical personnel, many physicians will be obliged to administer industrial hygiene on the one hand and continue their customary management of individual patients derived from industry on the other. These dual responsibilities are of first importance and not always realized even in professional circles. For some time to come, any movement to improve or extend industrial health must acknowledge first of all that in speaking of industrial hygiene and physical rehabilitation we are describing the several functions of the same set of practitioners. Indeed on occasion these functions may overlap, yet there is no incompatibility that suitable training and ethical behavior cannot overcome."

If the industrial physician is really on his toes he will have so much to do minding his own business that he will be glad to stay off the preserves of the private practitioner. This does not mean that he cannot contrib-

ute to the general betterment of medicine of his community through the hospital staff meeting, the county society, etc. He should be accepted as per his ability as a physician working in a special field. The 1,200 of industrial physicians of this country are not mere "finger wrappers" or "first-aiders." But they are real men doing a real job and no more prone to listen to that which the "patient said you said" and draw conclusions therefrom than is anyone else.

Under the present status of workmen's compensation laws, the cooperation that the private practitioner can render the industrial physician is to refer injuries arising in employment back to the industrial physician. He may ask you to treat the case or he may not, as per the various factors involved, but you will win his cooperation.

Irvin Abell, M.D., President of the American Medical Association: "Organized medicine reaffirms its conviction that no industrial health system can ever be considered worthy of that name unless the worker himself is constantly upheld as the central object of all effort, all planning, and all reform. As long as this attitude prevails and reflects a single-minded purpose, then can labor, management, the government and all elements within the medical profession meet on common and substantial ground."

May I close with a statement which will bear repeating? The best interests of the patient are paramount, and the interests of the private practitioner of medicine and of the industrial physicians in that patient are parallel. They do not cross.

DISCUSSION

DR. A. R. McMAHAN (Memphis): Dr. Schram has very strikingly pointed out the benefits that may be given employees in industry by careful medical supervision. It is especially significant to note that time off from shop injury has been reduced seventy-five per cent as a result of the safety movement which has proven so effective in the saving of life and limb.

My own experience in industrial practice has

been almost entirely limited to the injury side. Naturally, in a not inconsiderable phase of this type of work I have frequently enlisted the help of my fellow physicians. The industrial surgeon encounters almost every type of injury from the simplest to the most severe. He faces problems that require sound judgment and not infrequently the aid of skilled specialists. When consultations are necessary such should result in full cooperation directed toward giving the ill or injured employee the best possible result in any given case.

In the care of my own injury work I have found my relationship with fellow practitioners cordial and helpful. It seems to me there should be no cause for distinction in the industrial field of medicine or surgery that should conflict in any way with other branches of medicine.

The compulsory physical examination periodically required by employers has proven to be of inestimable value to employee and employer alike. More and more this requirement is being adopted by business generally as a worth-while step in preventive medicine.

The relation of the industrial physician and his brother physician in other fields should be and can be friendly and cooperative. By this means lives will be saved and a greater number of the ill and injured returned to a gainful occupation.

I want to commend Dr. Schram very highly for his able presentation of this important subject.

DR. C. F. N. SCHRAM (closing): I did not mention in this paper anything about the cost, and you may wonder why industry is so interested. Lost time from industry, irrespective of the cause, costs the employer from one to five times as much as the employee loses in wages if the employee is on productive work. If he is on nonproductive work, the employer loses as much as the employee loses. There is an average of from one to five times as much time lost from illness as there is from injury. It is easy to figure up the cost to any concern employing 500 to 1,000 men. The major cause of lost time in industry is illness.

May I close with a quotation from Dr. Roscoe L. Sensenich of South Bend, Indiana? I took this quotation from the Industrial Council Meeting: "Industrial medicine will be respected in proportion as it will apply itself to the advancement of accident prevention and the maintenance of the health of the worker within the boundaries of industry, provided the material interests of industry are not permitted to introduce between the industrial surgeon and his employee patient elements prejudicial to the best interests of the employee and inconsistent with the ideals set up for private practice."

SOME PHASES OF THE ANEMIAS*

RICHARD E. CHING, M.D., Memphis

DURING the past fifteen years advances in the diagnosis and treatment of the anemias have been among the most outstanding in medicine. Chief of these has been the recognition that there are two and only two antianemic remedies which deserve to be called specific, namely, liver and iron, and that satisfactory methods have been placed at the clinician's disposal for determining which of these two remedies his patients need.

The methods in question are those that estimate the relative size and hemoglobin content of the erythrocyte. These two values point directly to the therapy indicated. The anemias with cells larger than normal respond to liver; those with low hemoglobin concentrations to iron; and those with normal-sized cells with normal hemoglobin concentrations are refractory to both liver and iron. On these simple facts a new classification of the anemias has been developed and widely accepted. The first object of this paper is to present this new classification and to consider its practical aspects for the practitioner. The second object of this paper is to consider two frequently en-

countered, but not sufficiently recognized, types of anemia. The first one is pernicious anemia with specific clinical findings without the specific blood picture; the second, macrocytic anemia resembling, but not pernicious anemia. Six brief case reports will be given.

I. *The Modern Classification of the Anemias.*—The four types of anemia in Table I cover the entire field. Later in this paper these types of anemia will be considered from an etiological standpoint.

TABLE I
RECLASSIFICATION OF ANEMIAS ACCORDING TO SIZE
AND HEMOGLOBIN CONCENTRATION OF RED
CELLS AND THERAPY INDICATED

	Color Index	Vol. Index	Therapy Indicated
1. Hyperchromic Macrocytic	++1	+1	Liver
2. Hypochromic Microcytic	--1	-1	Iron
3. Hypochromic Normocytic	--1	1	Iron
4. Normochromic Normocytic	1	1	Trans- fusions Copper Vita- mins Etc.

Table II illustrates one method for determination of the average size of the erythrocytes in the anemic patient by computation of the volume index.

TABLE II
ESTIMATION OF VOLUME INDEX
Given

A patient with red cell count 1,500,000 per cubic centimeter and 18.4 cubic centimeters of packed red cells per 100 cubic centimeters.

Formula

$$\frac{\text{Number cubic centimeters packed cells per 100 cubic centimeters}}{\text{Normal number packed cells per 100 cubic centimeters}} = \frac{\text{Total count}}{\text{Normal total count}}$$

$$\frac{18.4}{46} \cdot \frac{1,500,000}{5,000,000} = 1.33 = \text{Volume Index} = \text{Macrocytic}$$

Given

A patient with red cell count 1,500,000 per cubic centimeter and 9.2 cubic centimeters of packed cells per 100 cubic centimeters.

Formula

$$\frac{9.2}{46} \cdot \frac{1,500,000}{5,000,000} = 0.67 = \text{Volume Index} = \text{Microcytic}$$

*Read before the Tennessee State Medical Association, Jackson, April 11, 12, 13, 1939.

TABLE III
ESTIMATION OF COLOR INDEX

Given

A patient with hemoglobin six grams per 100 cubic centimeter (40%): Red cell count, 1,500,000 per cubic millimeter.

Method I

$$\frac{\text{Number grams hemoglobin per 100 cubic centimeters}}{\text{Normal number grams hemoglobin per 100 cubic centimeters}} = \frac{\text{Red cell count}}{\text{Normal red cell count}}$$

$$\frac{6.0}{15.0} : \frac{1,500,000}{5,000,000} = 1.33 = \text{Color Index}$$

Method II

$$\frac{\text{Hemoglobin percentage of normal}}{\text{Red cell count} \times 2}$$

$$\frac{40}{15 \times 2} = 1.33 = \text{Color Index}$$

The normal volume index is between .90 and 1.10. In the first set of figures in the above table, the volume index is higher than normal, signifying a macrocytic anemia calling for liver. In the second set, the cells average smaller than normal, the volume index is below one, and the anemia will not respond to liver.

Many clinicians prefer an estimation of the mean corpuscular volume instead of the color index, because the former determines the actual size of the average erythrocyte in the given case. The normal is considered to be from ninety to 100 cubic microns. For both mean corpuscular volume and volume index, the volume of packed red blood cells per 100 cubic centimeters of blood is estimated after centrifuging a sample of oxalated blood at a high speed. Either a graduated centrifuge tube or a Wintrobe hematocrit may be used during centrifugation.

Table III illustrates the determination of the color index in two given anemias.

The normal color index is between .90 and 1.10. Anemias with color indices below .90 need iron, while with the value above this level, iron is superfluous. The mean corpuscular hemoglobin estimation is more accurate. It is calculated by dividing the grams of hemoglobin per 100 cubic centimeters by the red cell count. Normal values are from twenty-five to thirty-four micrograms in the average red cell.

Tables IV to VII compare etiological factors in anemias with size and hemoglobin

concentration of erythrocytes, and with therapy. To be noted in Tables IV and V is that specific diseases may be associated with different forms of anemia. For example, an infectious disease, like nephritis, may give rise to a hypochromic, a normocytic, or a macrocytic anemia. In such an instance, therapy is to be directed according to the type of anemia. Then, if in addition the etiological agent is withdrawn, the therapy is usually satisfactory, but if the associated disease continues, the efforts to benefit the anemia by liver or iron may be disappointing, because their utilization may be impeded by the associated disease.

Tables VI and VII illustrate the different mechanisms at work in hypochromic and macrocytic anemias. Both are essentially deficiency states. In hypochromic anemia, inadequate iron is available for hemoglobin manufacture. The cause may be inadequate intake or assimilation, or excessive withdrawal of iron from the body.

In the macrocytic anemias (Table VII) the lack is in a specific substance requisite for manufacture of normal red cell stroma. When this substance is not supplied in adequate quantities, the bone marrow forms erythrocytes that are larger than normal, but not robust and capable of good function. The deficiency may be either in the body's inability to manufacture this substance from various foods, or in an inability to assimilate it or store it.

TABLE IV
ETIOLOGICAL FACTORS IN ANEMIAS
I. BLOOD LOSS

<i>Etiology</i>	<i>Type of Anemia</i>		<i>Therapy</i>
Acute Hemorrhage	Normocytic	Hypochromic	{ Transfusion or Iron
Chronic Hemorrhage	Microcytic	Hypochromic	

II. INCREASED HEMOLYSIS

<i>Etiology</i>	<i>Type of Anemia</i>		<i>Therapy</i>
Anemias in Infancy	Not Constant	Hyperchromic	Not Specific
Hemolytic Jaundice	Not Constant	Hyperchromic	Splenectomy
Infectious Diseases	Not Constant	Hyperchromic	Not Specific
Chemicals	Not Constant	Hyperchromic	Not Specific

Treatment in these diseases: (1) Search for and remove cause; (2) treat anemia as it types out; (3) use general measures.

TABLE V
III. BONE MARROW INJURY

<i>Etiology</i>	<i>Type of Anemia</i>		<i>Therapy</i>
Drugs	Not Constant	Not Constant	{ General Measures and Removal of Cause
X-ray and Radium	Not Constant	Not Constant	
Leukemia	Not Constant	Not Constant	
Malignancy	Not Constant	Not Constant	
Aplastic Anemia	Not Constant	Not Constant	Transfusion
Splenic Anemia	Not Constant	Hypochromic	Splenectomy Iron

TABLE VI
IV. IRON DEFICIENCY

<i>Etiology</i>	<i>Type of Anemia</i>	<i>Therapy</i>
Hemorrhage	Normocytic	{ Iron and Transfusions
Nutritional Anemias	or Hypochromic	
Faulty Absorption	Microcytic	
or Elimination		
Chronic Diarrhea		
Ulcerative Colitis		
Achlorhydria		

TABLE VII
V. DEFICIENCY OF ANTIANEMIC FACTOR

<i>Etiology</i>	<i>Type of Anemia</i>		<i>Therapy</i>
Intrinsic Factor	Macrocytic	Hyperchromic	{ Liver
Deficiency in Stomach			
Pernicious Anemia			
Pregnancy			
Stomach Injury			
Extrinsic Factor	Macrocytic	Hyperchromic	Liver
Deficiency			Autolyzed Yeast
Diet—			
Pregnancy, Sprue, Pellagra			
Faulty Absorption	Macrocytic	Hyperchromic	Liver
Pregnancy, Parasites, Sprue,			Autolyzed Yeast
Pellagra, Diarrhea, Colitis			
Faulty Storage	Macrocytic	Hyperchromic	Liver
Cirrhosis, Gall-bladder Dis-			
ease, Hepatitis			

This classification of the anemias is practical for every physician with access to a good clinical laboratory. The usual pitfalls encountered when employing this classification in routine cases consist in technical errors. To avoid them standardized laboratory equipment is essential. The pipettes must be those approved and stamped as such by the American Bureau of Standards, for any others are too unreliable even for routine work. The hemoglobin standards

must be frequently checked by blood chemistry methods if wide discrepancies are to be avoided. Furthermore, if the Sahli or similar color standard method is used, an allowance of from five to ten per cent of error must be allowed for the technician's eyes in making the hemoglobin reading. In estimating the volume index or mean corpuscular volume, low-speed smaller types of centrifuges are unsatisfactory; the large, high-speed type must be employed. It is

evident, therefore, that in using this classification, when a case of anemia is not definite in type, is not macrocytic or hypochromic or normochromic, one must avoid hair-splitting diagnoses. Borderline cases are frequent. When an anemia does not appear to be responding to therapy according to predictions, there is usually one of two explanations, namely, a borderline case or technical error.

II. A. *Pernicious Anemia Without Anemia*.—The frequency of neurological manifestations in pernicious anemia is usually estimated to be between fifty and eighty-five per cent. In the general run of cases, these manifestations do not occur until the anemia has become chronic. The usual order of involvement in pernicious anemia is considered to be as follows: achlorhydria, glossitis, anemia, peripheral neuritis, and sclerosis of the spinal cord. This sequence of events often does not obtain. That the nervous system may become affected before the marrow is apparent from many reports in the literature. Among others, Sanford reported on this phenomenon.

Recently Dr. Carrol C. Turner and I have been studying a group of these patients. All have had the type of central nervous system disease peculiar to pernicious anemia, but either have not manifested the specific blood picture, or if they did, for very short intervals. The following are short summaries of the case histories of these patients:

Case No. 1. Mrs. J. E. D., age fifty, was first seen in 1933 with a transitory paralysis of the left lower extremity, generalized hyperactive deep reflexes, tingling, achlorhydria, sore tongue. Anemia at first was moderately severe. On taking liver extract, it improved along with the subjective symptoms. In 1935, she discontinued taking liver and seeing her physician. For three years she was symptom free; then tingling and sore tongue recurred and she began to be annoyed by tinnitus and weakness. The red cell count at this time, January, 1938, was 4.58 million; the hemoglobin, 13.5 grams; and the mean corpuscular volume, ninety-five cubic microns. She also had a leucocytosis ranging from 10,000 to 13,000

cells with a definite polynucleosis. While searching for a focus of infection, the red cell count dropped to 3.57 million and the mean corpuscular volume rose to 110 cubic microns—this during a period of three weeks. She was then given concentrated liver extract and all blood values shortly returned to normal, the leucocytosis for some unknown reason disappearing. She has since received liver regularly. The sore tongue, tingling, and tinnitus have disappeared and the blood picture has remained normal. Her last hematological study was on March 6, 1939. She still has hyperactive deep reflexes.

Comment.—Here is a woman with all of the manifestations of pernicious anemia when first seen six years ago. After a normal response to liver, she discontinued medication and did not redevelop anemia until an obscure infection set in. Liver therapy has benefitted her neurological symptoms and controlled her anemia, but on the whole she seems to need it more for the former than the latter.

Case No. 2. Mrs. J. D. M., age fifty-eight years, has had paraesthesias in her arms since the autumn of 1936. Neurologically, there are a positive Romberg's test and hyperactive reflexes. She took liver spasmodically and had no anemia until January, 1938, when she became acutely weaker. At this time, the red cell count was 3.31 million; the hemoglobin, 12.3 grams; the volume index, .95. Liver therapy was then instituted. Three weeks later, the red cell count had risen to 4.55 million, and the hemoglobin to 13.5 grams. The blood picture has since remained stationary and within normal limits. She has taken her liver religiously. The paraesthesias have remarkably improved.

Comment.—This patient had onset of anemia one year after appearance of neurological manifestations. The anemia has been easily controlled by liver, and the paraesthesias are no longer troublesome. Objective signs, however, of nervous system involvement remain. She developed anemia while under observation.

The following two cases are comparable, in that the neurological picture progressed

while not taking liver, but the anemia did not appear during this time. Anemia, in both cases, had been present at a former period and had been relieved by liver.

Case No. 3. Mr. B. W., age fifty-three. Onset in 1933 with weakness, bladder difficulties, ataxia, tingling, and muscle pains. Diagnosed at this time by another physician as "secondary anemia," but responded to liver therapy. After about six months he discontinued taking liver regularly. During the following four years his neurological signs and symptoms advanced further, but he did not redevelop anemia. In August, 1937, liver therapy was reinstituted. Since then there apparently has been an arrest of the neurological process, and the blood picture has remained normal. He was last seen in December, 1938.

Case No. 4. Mrs. A. C. W., age fifty-two, in 1935, had a severe hemorrhage following a tooth extraction. She had been troubled with a bleeding tendency since childhood. Shortly following the hemorrhage she began to experience an annoying tingling in her extremities. On liver therapy she made a prompt improvement, hematologically and neurologically. In September, 1937, she discontinued liver. On January 29, 1938, when I first saw her, the neurological symptoms had returned, but the blood picture was nearly normal: hemoglobin, twelve grams; erythrocytes, 4.01 million; volume index, .90. She was given ventriculin and dilute hydrochloric acid, and has since been greatly relieved of her neurological symptoms. She refuses further blood studies.

II. B. *Macrocytic Anemias Resembling, but Not Pernicious Anemia.*—Hematological pictures comparable with and often similar to pernicious anemia are frequent. Referring to Table VII, it is seen that such are found in sprue, pellagra, pregnancy, Dibothecephalus latum infestations, chronic diarrhea, colitis, cirrhosis, and hepatitis.

I have also inserted gall-bladder disease under this heading, for I have followed a number of gall-bladder patients with macrocytic anemia who, at first, I thought had pernicious anemia. The hematological deficiency in this type of patient appears to be in an inability of the liver to store ade-

quate amounts of the antianemic blood building substance in foods that have been eaten. This group of patients have a subacidity or an anacidity, may or may not have paraesthesias and sore tongue, and have various vague abdominal symptoms that improve as the anemia improves. The following are reports of two such cases:

Case No. 5. Mrs. J. P. V., age forty-eight, during 1933, had frequent indigestion, flatulence, upper abdominal pain, nausea, and vomiting, but no anemia. During a year's time she lost forty pounds. X-ray revealed a poorly emptying gall bladder. Gradually she developed tenderness over the gall bladder, fever, and a leucocytosis. A cholecystectomy was performed on March 19, 1934, by Dr. Robin Mason. The gall bladder was found thick and fibrosed without stones, and the liver was edematous, projecting three fingers' breadth below the costal margin. Convalescence was uneventful. Ten months following operation, she experienced a similar attack to the ones prior to operation. It was followed within a week by a pain in the right Achilles tendon, and by tingling and weakness. Laboratory examinations at this time revealed: erythrocytes, 3.33 million; hemoglobin, 10.5 grams; leucocytes, 3,000; mean corpuscular volume, 125 cubic microns; three degrees of total acidity and an absence of free acid in the gastric contents. On concentrated liver extract, the blood picture returned to normal within six weeks, and the pain and tingling disappeared. She then ceased taking liver in any form, and was not seen by a physician until March 23, 1939. At this time, her blood picture was normal, and she disclaimed having had a return of any of her previous symptoms.

Case No. 6. Mrs. E. J., age thirty-two, was seen for the first time on August 7, 1938, during an acute gall bladder attack following eating a "pig sandwich." This was relieved by opiates. She gave a history of selective indigestion extending over a period of more than five years. Two days after the attack, she came to the office for examination. The erythrocytes were 2.91 million; the leucocytes, 4,500; hemoglobin, 7.5 grams; and the volume index, 1.28. Gas-

tric analysis revealed no free hydrochloric acid, and a total acidity of eight degrees. During the ensuing forty-five days, she received a total of eleven cubic centimeters of concentrated liver extract. The red cell count rose to 4.12 million. Following this she discontinued taking liver. Hematological examination on March 25, 1939, five months after the final liver injection, revealed that her red cells were 4.27 million and her hemoglobin, 12.6 grams. She feels well. Neurological examination has been negative from the beginning.

Summary and Conclusion.—1. The modern method of classifying the anemias with respect to the average size and hemoglobin content of their red cells is practical and available to all clinicians with access to good laboratories.

2. Four cases are reported of pernicious anemia without anemia, and comments made on this clinically established syndrome.

3. Two cases of macrocytic anemia resembling, but not pernicious anemia, associated with gall-bladder disease, are reported and commented on.

DISCUSSION

DR. L. C. SANDERS (Memphis): During the last few years I have been impressed with the frequency in which anemias of the various types are occurring. It seems to me that they are far more prevalent today than they were ten years ago. That applies both to the secondary anemias and the primary anemias. I think I see more cases of pernicious anemia than I do of diabetes and tuberculosis combined.

Secondary anemia is very common and I think it is probably due to two or three things. First, we know that secondary anemia is due in some degree to infections; secondly, to drugs; and thirdly, to dietary deficiencies. Drugs and dietary deficiencies perhaps account for more anemias at the present time than anything else. That is particularly true in recent years in the use of drugs like sulfanilamide. We all know that sulfanilamide, given in maximum doses, without the administration of something to prevent it, will produce sometimes a rapid anemia. We believe that this drug should always be given with a great deal of care and patients should be watched very carefully during its administration, watching the effect to prevent massive anemia that sometimes occurs.

DR. L. C. SANDERS (Memphis): Dr. Ching has given us a very graphic and complete summary

of the major points in the diagnosis and treatment of the important anemias.

I wish to emphasize the use of the new classification because it simplifies the diagnosis and lends immediate help in the institution of treatment. The borderline cases are always difficult to classify and should be studied over a long period of time in order to determine whether the anemia is primary or secondary. This is important because the primary anemias should be discovered as early as possible to prevent the serious complications which often occur.

Secondary anemia occurs as the result of a wide variety of pathologic states. Treatment should not be instituted until a careful search for the cause has been made. In my experience this type of anemia is very common and responds to treatment only after the cause has been removed.

Pernicious anemia is difficult to diagnose only in the early stage. Quite frequently patients are encountered who have the classical symptoms of the disease without anemia. The blood study and the analysis of the stomach contents are necessary and essential before liver extract is administered. It must be remembered that treatment of this disease must be continued throughout life.

Finally, I want to emphasize the careful study of all patients with anemia for two main reasons:

1. In the secondary anemias the cause must be found and removed before the treatment becomes effective.

2. In primary or pernicious anemia liver is a specific for relieving the anemia. Liver is an expensive therapeutic agent and should not be prescribed for patients in therapeutic doses unless there is definite indication for its use.

DR. J. O. MANIER (Nashville): The trend of disease classification is most interesting to study and observe. Originally most accepted classifications of disease states revolved largely around anatomic changes occurring in the diseases under consideration, and especially in those organs predominantly affected pathologically. Now, however, the classification of diseases tends to be etiological rather than anatomical where knowledge permits or in other instances to be concerned with disturbances of physiological function.

The separation of the anemias largely into hyperchromic and hypochromic varieties with the present accepted subdivisions under these major headings has not only enabled us to make more accurate diagnoses of diseases of the blood, but also to approach the problem of treatment in a more effective and scientific manner, and hence attain more satisfactory and prompt results from treatment.

As pointed out by Dr. Ching, the differentiation between hyper- and hypochromic anemias can be clearly made by the estimation of the relative size and hemoglobin content of the erythrocyte by computing the color index and volume index and by calculating the mean corpuscular hemoglobin.

In the well-marked instances of either hyperchromic or hypochromic anemia, a relatively accurate differentiation of these two major types often can be made by the simple expedient of a careful microscopic study of the erythrocytes as seen in the stained smear.

It is an interesting fact that both hypochromic and hyperchromic anemias may be said to be deficiency diseases in a certain sense—the former requiring iron largely for recovery and the latter the specific antianemic fraction found in liver. In the hypochromic anemia iron deficiency may not be necessarily created by lack of adequate intake of this mineral alone, but loss of blood for instance by rapid or long continued slow bleeding may so exhaust the available body store of iron that the iron content of a well-balanced diet is not of itself sufficient to insure the return of the hypochromic state to normal, and the additional amounts of this metal must be added to the diet. Certainly it is generally conceded that iron is a specific for hypochromic anemia and in adequate amount will return the blood to its normal state provided, of course, the original causative factor has been removed or corrected.

The problem of hyperchromic anemia is somewhat more involved, though the antianemic principle is equally effective when properly applied. Originally most hyperchromic anemias were considered to be cases of true Addisonian pernicious anemia, but this we now know not to be always true, though the blood picture itself alone may be indistinguishable and the differentiation have to be made by the absence of certain of the necessary findings of pernicious anemia, or, on the other hand, the presence of findings distinctive of other disease states often associated with hyperchromic conditions of the blood. Furthermore, the actual *modus operandi* of development of the deficiency of the acute anemic fraction varies in the different type of hyperchromic blood states—as, for instance, in true pernicious anemia the deficiency arises as a result of the failure of the gastric mucosa to produce an adequate amount of the necessary intrinsic factor to act upon the extrinsic factor contained in certain foods taken in by mouth and so produce the needed antianemic fraction. Here we have an absolute deficiency state in that little or none of the needed factor is produced. In other diseased conditions associated with hyperchromic blood states there may be normal or near normal production of the necessary intrinsic factor, and through its action on the extrinsic factor an adequate amount of the acute anemic fraction produced to maintain proper blood balance, and yet conditions of faulty absorption due to disease states of the intestinal tract, faulty storage due to impaired liver function, etc., may account for the failure of delivery of an adequate amount of the necessary antianemic fraction to the hemopoietic centers. Or again a diet markedly deficient in the extrinsic factor may serve to prevent the pro-

duction of a normal amount of the antianemic fraction even when the stomach is producing an ordinary amount of the intrinsic factor. These latter situations just mentioned might be termed states of relative deficiency in that the fault lies not in the absence of the fraction, but rather in faulty and improper absorption, storage, and possibly usage of the needed principle actually present in the body in adequate amount. Certainly it is a relatively established fact that hyperchromic erythrocytes appear in the circulating blood in the absence from any cause of a necessary amount of the so-called antianemic fraction, that such cells are less mature and hence less resistant and unable to function as efficiently as the healthy normocyte, and further that the tendency to the production of the hyperchromic megalocyte can be controlled in practically all instances by the administration of and delivery to the hemopoietic tissues of the necessary antianemic principle. In this connection in the treatment of macrocytic anemias of all kinds—pernicious and otherwise—it is wise to bear in mind that the necessary amount of the antianemic substance to restore the blood picture to relative normal and so control the disease state varies in wide limits in individual cases. Also that in some instances no amount of this substance, no matter how large, will accomplish the desired result when given orally, but in order to attain therapeutic results liver extract must be administered parenterally and even then the needs of individual cases may vary widely.

In considering pernicious anemia from a diagnostic point of view we will not fail to recognize near so many cases of this not uncommon condition if we bear in mind that the degree of anemia present does not of necessity have to be marked to justify at least suspicion of this disease. Pernicious anemia in its course is a disease of remissions and relapses even when untreated and if seen at the crest of a remission the anemia itself may be poorly marked. Furthermore many of the common symptoms of this bizarre disorder may precede by months or even years the characteristic anemia. It is wise to recall that achlorhydria—a practically constant finding in pernicious anemia—may antedate the characteristic blood changes as may also the distinctive glossitis, as well as the many nervous phenomena such as apparently causeless paraesthesias, diminished or lost vibratory sensation or even well-marked posterolateral column disease of the spinal cord. These and many other symptoms when found in patients justify a suspicion of pernicious anemia and a thorough study of the patient and his blood despite the fact one must admit that they can be expressions of other disease states as well.

If Dr. Ching's very excellent paper attains no other results than to discourage the haphazard administration of liver extract to all anemias simply because of the brilliant results its use pro-

duces in macrocytic anemias it will more than justify its position on this program.

DR. CARROL TURNER (Memphis): When we use the term pernicious anemia, we think of a disease mainly of the blood in which there is a definite change in the blood picture. However, we see many cases with a typical neurological picture of combined degeneration of the cord in which we feel that the patient should have pernicious anemia, but in whom the blood picture does not correspond with that of pernicious anemia, even in the absence of any treatment. In other cases subjective symptoms lead to a consideration of an involved gastrointestinal tract with so few, if any, subjective symptoms referable to the nervous system that we can almost discount a neuropathy. Neurological symptoms and signs with or without psychoses occur in seventy-five per cent of cases of so-called pernicious anemia which are verified pernicious anemia from the estimation of the blood picture. In the majority of these gastrointestinal symptoms such as glossitis, soreness of the roof of the mouth with redness of the tongue and mucous membranes of the mouth which probably is the condition which exists in the whole gastrointestinal tract. With this comes the expectant subacidity of the stomach, particularly of hydrochloric acid. This identical condition is exactly that which exists in such deficiency states as pellagra, lathyrism, and sprue, in which conditions there is also a change of the blood picture. Could it be then that the disease known as pernicious anemia is really a deficiency state in which three systems are involved: the hemopoietic system, the nervous system, the gastrointestinal tract? Would it not seem probable that in this state with one of these systems could be the expression of the disease without involvement of either of the other two? At any rate, this could be used as a

hypothesis in those cases with a classical neurological picture, but without any evidence of anemia?

DR. R. E. CHING (closing): I want to thank everyone for such generous and considerate discussions. The only two further things I want to bring out that were not in the paper are these: In a given case, if the anemia types out either microcytic or hypochromic and then liver or iron, respectively, don't bring the desired results, start looking for the focus of infection or some other associated disease, because there are various inhibiting factors which prevent these two substances from operating at maximum efficiency.

For instance, in the case of nephritis we frequently see macrocytic anemia, and liver is notoriously of no great avail. The reason is that nephritis keeps the liver from doing the work, and I could go on and bore you with a long list of other diseases in which the same principles obtain.

The next point I want to bring out, and this is reemphasizing what was in the paper and also what Dr. Manier mentioned, is that the so-called pernicious anemia blood picture appears in many different conditions, and just because an anemia is definitely hyperchromic or macrocytic, even though it might be severe, the diagnosis of true pernicious anemia cannot be based on just that evidence. The cases I have to report exemplify this idea, two cases of gall bladder disease who had all the requirements of pernicious anemia, and at first I thought they had it. I filled them up with liver and got the characteristic response from them. Unfortunately for me, these patients stopped coming to the office, but after a considerable period I found that they had not been taking liver, yet they had not developed their anemia.

I want to again thank everyone for being so courteous.

REPORT OF DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION

To the House of Delegates of the Tennessee State Medical Association:

The undersigned delegates of the Tennessee State Medical Association attended the annual meeting of the House of Delegates of the American Medical Association in St. Louis, May 15-19, 1939, and herewith submit their report of the proceedings.

The Speaker, Dr. H. H. Shoulders, paid tribute to the House for its fidelity to its ideals, its faith in one another, its democratic procedures, and its consistency in dealing with all matters concerning the fundamental principles of the practice of medicine. The efficient, impartial, and judicial manner in which he discharged the duties of his office was complimented by many of the delegates.

Dr. Irvin Abell, in his presidential address, reviewed the activities of the various councils and committees of the Association. He discussed meetings of the committee of the Association, of which he was chairman, with the Interdepartmental Committee to coordinate the Health and Welfare Activities of the federal government, at which meetings the principles and policies previously adopted by the House of Delegates were advocated as follows: "Expansion of public health, maternal and child welfare services with limitation of curative measures to private practice where available; utilization of vacant beds in present hospitals on a per diem basis; the construction of new beds and diagnostic health centers on a basis of economic, geographic, and health needs with standards for hospital administration for professional personnel; perpetuation of hospital and health centers; the formulation of plans for the care of the medically needy, determined by local and financial needs under medical and local state supervision; the approval of sickness compensation and of voluntary insurance for hospital and medical service, and unqualified opposition to the suggestion that the individual states initiate studies and plans for the care of all their people on a tax-paid basis."

The Wagner Bill, S. 1620, was discussed by pointing out its provisions and its defects, and its failure to contribute to the attainment of the fundamental objectives to which the Association is committed, namely, expansion of public health, maternal and child welfare services, approved care of the indigent and the medically indigent, and an extension of hospital and diagnostic facilities. At an interview with President Roosevelt, Dr. Abell presented the position of the Association on national health problems. Dr. Abell stated that the question at issue in the indictment of the American Medical Association by the Department of Justice is whether professional organizations shall be policed by the federal government or shall they continue to be allowed to establish standards of qualifications, training, attainment, character, and conduct of their members as in the past. He felt there could be no compromise on this issue.

President-elect Dr. Rock Sleyster pointed out that in the depression years the need for medical services in the United States had been met to a greater extent than had the need for any other of the necessities of life, and that in this period medicine had improved its quality and its distribution. He deplored a multiplicity of medical societies, and urged that members and officers avoid projecting personal opinions on broad policies of public welfare except such as have been adopted by their organizations, since broad policies for American medicine must be the responsibility of the American Medical Association.

Dr. Olin West, Secretary, reported the membership of the Association at an all-time high of 113,113 members and 70,100 fellows as of May 1, 1939.

Regarding the business operations of the Association, the Board of Trustees reported that the Association had a gross income for the year 1938 of \$1,758,147.09 and a total expense of \$1,769,548.60, giving a deficit of \$11,401.51. Both income and expenditures for 1938 were greater than for 1937. Interest on investments received in 1938

were \$3,293.52 greater than the amount received in 1937. Among the increased expenditures for 1938 and the amounts of increases were office salaries and wages, \$11,292.55; factory pay roll, \$14,867.72; cost of paper slightly over \$10,000.00; postage, \$5,933.02; expense of various councils, bureaus, and departments, \$26,496.58. Expenditures for legal services, amounting to \$67,096.56, were larger than in 1937 by the sum of \$43,807.96. These larger legal costs were made necessary because of the indictment of the Association by the United States Department of Justice, a ruling by the United States Bureau of Internal Revenue that the Association is liable for Social Security taxes, and suits filed against the Association.

The Association now employs slightly less than 600 persons.

The Journal of the American Medical Association had an increase in the number of subscribers to a total of 99,854 at the end of the year 1938. The net earnings of the JOURNAL for the year were \$641,712.22. The special journals showed a loss of \$28,883.35.

The Board of Trustees reported in detail upon the activities of the Council on Pharmacy and Chemistry, Council on Foods, Council on Physical Therapy, Chemical Laboratory, Council on Industrial Health, Bureau of Legal Medicine and Legislation, Bureau of Health Education, Bureau of Medical Economics, Bureau of Investigation, Bureau of Exhibits, Committee on Scientific Research, and Committee on Therapeutic Research. All of these councils, bureaus, and committees report expansion of their activities and increased contributions to medical information which are valuable aids to the practice of medicine and the public health.

The Treasurer reported that the Association had a reserve of bonds and cash December 31, 1938, totaling \$2,464,281.98. In addition the Association shows in its balance sheet real estate, buildings, equipment, furniture, etc., with a total value of \$1,389,752.02. Cash and sundry items bring the total assets of the Association to \$4,239,682.40. After deducting reserves for taxes

and current liabilities the net worth at the end of 1938 is shown to be \$3,891,987.32.

The Judicial Council warned that in many of the schemes proposed for supplying medical care to the low income population ethical principles have been ignored. In this the Council sees a growing menace to many of the sound principles which have governed the practice of medicine, and emphasizes the fact that the practice of medicine by members of the Association is governed by the Principle of Medical Ethics as approved by the House of Delegates. The Council defined a diagnostic clinic.

The Council on Medical Education and Hospital reported on the undergraduate medical schools visited and submitted for approval of the House of Delegates its (a) revised "Essentials of a Registered Hospital," (b) revised "Essentials of Approved Residences and Fellowships," (c) revised "Essentials for Approved Examining Boards in Specialties." The Council also reported on existing hospital facilities in the state of Mississippi.

The high light of the session was the action taken on the National Health Act of 1939, known as the Wagner Bill, S. 1620. The committee to which this legislation was referred for study introduced a resolution recommending that it be opposed by the Association. Without a dissenting vote the resolution was adopted. The report of this committee with an analysis of the bill was printed in the June issue of the JOURNAL of the State Association.

The committee on the need for medical care reported that returns had been received from 20,199 physicians and dentists from 763 counties in thirty-nine states, representing a population of 40,790,068 persons. Approximately 17,000 physicians report giving medical service without charge to 2,611,451 persons. From the replies received the committee estimates that about 40,000 people in the United States are denied needed medical care and not 40,000,000 as claimed by the technical committee report to the National Health Conference.

The delegates voted to increase the membership of the Council on Medical Education from seven to nine members and to enlarge

its activities to include an interest in pre-medical undergraduates and graduate medical education, and closer cooperation with the certifying boards of the specialties.

The Judicial Council proposed an amendment to the constitution which provides that membership in the American Medical Association be limited to those "holding the title of Doctor of Medicine or Bachelor of Medicine." Some local societies now have osteopaths and other irregular practitioners as members. The amendment will be acted upon at the 1940 meeting.

A resolution requesting the House to grant a seat to a woman delegate was rejected since that privilege now exists. Membership in county, district, and state medical associations makes one automatically a member of the American Medical Association. The constitution of the American Medical Association sets no standards for membership in local societies other than professional. Local societies may elect whom they wish to become members, and from these members choose delegates to the American Medical Association. For the same reason another resolution was rejected which provided that membership in the American Medical Association be not denied solely because of race, color, or creed.

The delegates recognized clinical pathology as a specialty of medicine, and resolved that directors of clinical pathological laboratories be graduates of medical schools and licensed physicians who have had three years' experience in clinical pathology.

It was recommended by the House that films and exhibits of medical subjects presented to the laity be approved by state associations or county medical societies.

A resolution was adopted requesting congress to provide funds for a new building for the Army Medical Museum and Library.

Provision of medical care by the Farm Security Administration was considered, and it was recommended that agreements between county medical societies and the administration be subject to the approval of the State Association.

The distinguished service medal for the year was awarded to Dr. James B. Herrick of Chicago because of his outstanding contributions to the art and science of medicine.

The following officers were elected:

President—Rock Sleyster, M.D., Milwaukee.

Vice - President — Alphonse McMahon, M.D., St. Louis.

President-elect—N. B. Van Etten, M.D., New York.

Secretary—Olin West, M.D., Chicago.

Treasurer—H. L. Kretschmer, M.D., Chicago.

Speaker of the House—H. H. Shoulders, M.D., Nashville.

Vice-Speaker of the House—R. W. Fouts, M.D., Omaha.

Trustees—Roger I. Lee, M.D., Boston, and E. L. Henderson, M.D., Louisville.

Atlantic City was selected as the 1942 convention place. The 1940 meeting will be held in New York and the 1941 meeting will be held in Cleveland.

Respectfully submitted,

H. B. EVERETT, M.D.

E. G. WOOD, M.D.

JOHN M. LEE, M.D.

Delegates.

THE JOURNAL

OF THE

TENNESSEE STATE MEDICAL ASSOCIATION

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H. H. SHOULDERS, M.D., Editor and Secretary

OCTOBER, 1939

THE ISSUE

SHALL PATIENTS AND DOCTORS RETAIN THEIR FREEDOM OF JUDGMENT IN THE MATTER OF MEDICAL CARE, OR SHALL THIS FREEDOM BE SURRENDERED TO SOME GOVERNMENTAL AGENCY?

EDITORIAL

MEETING OF THE SOUTHERN MEDICAL ASSOCIATION

The second largest medical organization in the United States meets in Memphis, Tennessee, November 22-24, 1939.

The profession of Tennessee joined with the Memphis and Shelby County Medical Society in inviting the Southern to meet in Memphis.

In a sense the entire profession of Tennessee is host to the Southern Medical Association.

A fine scientific program will be presented.

The facilities in Memphis for such a meeting are excellent.

The profession of Memphis is well organized to entertain the Association.

Dr. W. L. Williamson is chairman of the Committee on Arrangements.

Tennessee should be well represented at this meeting.

The November issue will carry more details.

THE EFFECTS OF CONCENTRATED POWER

We now are in position to observe in various parts of the world what happens when government powers are vested in one or a few men.

Those who see virtue in communism, socialism or any other "ism," in the main, fail to take into account the often demonstrated fact that no human individual possesses the qualities necessary to the proper use of such enormous powers. They accomplish a show of efficiency in some one or maybe several directions, but the abuse of the powers seem always to more than offset any advantages.

On theoretical grounds, it seems appropriate, now and then, to vest large powers in some government agency for the sake of efficiency. Such action leads ultimately to the abuse of power and the results of these abuses prove to be worse than the ills which such concentration of power was intended to correct.

The qualities necessary to the proper administration of such large powers simply do not exist in human nature. The same philosophy applies to medicine. The question is: Do we prefer democracy in medicine with such inefficiencies as go with democracy, or do we prefer autocracy in medicine with the abuses which always grow out of the concentration of powers as would exist in any form of state medicine?

There is, undoubtedly, in this country at the present time a drifting away from autocracy and bureaucracy. We have witnessed just enough of the abuse of power to teach us the lesson again that we want democracy in medicine instead of dictatorship or anything approaching dictatorship.

APPENDICITIS

For very good reasons the subject of appendicitis is again very much in the surgical literature. Reason, number one, is that it still causes about sixteen thousand deaths each year in the United States. Reason, number two, is that a vast majority of these deaths should not occur. The statement is made, with statistical evidence to support it, that the death rate from this disease has not been lowered, appreciably,

in the last twenty-five years. These facts challenge attention and call for some study to determine if possible the reason why.

Certainly, medicine has progressed in the last twenty-five years. Surgery has made more progress in the last twenty-five years than in any previous period of similar length.

The number of hospitals has been increased and, in most instances, hospital service has been improved. Notwithstanding all this progress in the ability and facilities to care for this disease, its actual mortality rate has not diminished appreciably.

It is obvious, of course, that the factor of delay invites the complications which prove fatal in spite of the proper surgery done at the wrong time.

The next question arises: Why this delay? Who or what is responsible for delay? Is delay due to failure of the patient to call a physician when he should, or is the delay due to the action or inaction of the physician called? There are no statistical data available to answer these questions accurately. We have the distinct impression, however, that delay is due in a majority of instances to the patient who either delays calling a physician or procrastinates afterward.

This raises another question—for example: Why do patients treat themselves? Why do they delay acting upon the judgment of the family physician? In the last twenty-five years there has been more public education or miseducation on medical matters than ever occurred before. It seems very probable that a little medical knowledge in the lay mind is a dangerous thing. There is nothing to indicate that the type of educational work that has been done except in a few instances has been of the slightest benefit. It seems that one effect has been to tear down faith in the doctor. The attitude on the part of patients which works out best all the way around is an attitude of faith on the part of a patient in his doctor. When this faith is diminished or destroyed the end results are bad regardless of the skill of the physician.

Another question which may be mentioned is this: Is it not possible that the

importance and dignity of the general practitioner have suffered as a result of efforts to encourage specialization? One never can, of course, decry the advancement in skill and care, but the importance of home care of sick people has not been emphasized. This home care refers to the judgment and skill used by the doctor who enters the home as a general practitioner. Certainly, his skill and judgment have most to do in determining the outcome of a vast number of illnesses, even though he does not treat the case through.

If the skill of the surgeon receives all the emphasis and the skill of the family physician receives no emphasis, this mortality rate, in all probability, will continue.

The best medical care for the country as a whole will not be that delivered by a few highly-trained specialists and a large number of relatively poorly-trained general practitioners. Nor will the mortality be lowered by the education of the public except that form of education which results in the proper mental attitude of patients toward their doctor. A campaign designed to build up the faith of the people in their doctor, and a disposition to call him promptly when an illness occurs and a disposition to follow his advice with diligence would have a beneficial effect on this mortality rate.

The building of an enormous number of hospitals will not meet this situation. Their number has already increased enormously in the last twenty-five years. The development of skilled general practitioners and the building of a faith in them, in all probability, will have the desired results.

MEDICAL SERVICE PLANS AND HOSPITAL SERVICE PLANS

A sufficient number of hospital plans are in operation in various parts of the country to furnish what may be called an actuarial experience on which to base sound conclusions later on.

Several different medical service plans are in operation at the present time, out of which there may grow an experience to guide us in the future.

Most all these plans, both hospital and

medical service, are under local control both as to finance, policies, and administration. Each plan in operation is an experiment. With so many experiments to observe, conclusions of value may be drawn at a later date.

The time may come when a hospital and a medical service plan may be evolved which will accomplish some distribution of the cost of medical care without destroying the democracy in medicine which is so vital to its success.

Many of the plans obviously were fallacious to begin with. Time and experience are bringing out the hidden fallacies in others.

It certainly is the part of wisdom to wait and observe for the present. Certainly nothing would be more foolish than the adoption of some national plan under the complete control of a central agency in Washington.

DEATHS

DR. CHARLES W. POLK

Dr. Charles W. Polk, Memphis; Memphis Hospital Medical College, 1902; aged fifty-nine; died July 5 of cerebral thrombosis.

DR. R. L. JONES

Dr. R. L. Jones, Nashville; Vanderbilt University, School of Medicine, Nashville, 1898; aged sixty-eight; died September 15.

DR. A. C. ELINOR

Dr. A. C. Elinor, McKenzie; Memphis Hospital Medical College, 1912; aged sixty-four; died September 15.

RESOLUTIONS

A TRIBUTE TO DR. WILLIAM BATTLE MALONE

In Room 261, Methodist Hospital, on the morning of September 4, the useful and brilliant career of Dr. Battle Malone came to an end and there passed from our midst a forceful, courageous, and lovable character. The next afternoon services were held in Madison Heights Methodist Church,

where the membership of this society stood by to do him honor, and where a host of friends and loved ones gathered to mourn his loss and pay tribute to his memory.

Dr. Battle Malone was a fine man, a good doctor, and a great civil and military surgeon. The many positions of honor and responsibility that he held and the many awards bestowed upon him for distinguished and outstanding services are matters of general knowledge and public record; but a full appreciation of his genius for organization and leadership was reserved for those of us who came under his influence, first in the classroom and later in the hospitals and medical organizations.

It is very difficult for a contemporary to draw a true character sketch of a friend because the finer qualities of mind and heart are felt rather than seen, appreciated rather than talked about. Tonight that task proves doubly difficult to one whose vision of Battle Malone's every other fine quality is overshadowed and dwarfed by an intimate personal knowledge of his outstanding capacity for intense, loyal, and militant personal friendship.

Upon coming out of Dr. Malone's sick-room the last time he saw him Dr. E. E. Francis said: "Battle was a gentleman, I can say no more." To many of us he was that and more. To us he was and always will be "the Major."

And so, with this tribute, we salute the memory of the major and extend to his wife and other loved ones our sympathy, and to the young doctor whom he loved as a son, our friendship and good wishes.

Respectfully submitted,

R. L. SANDERS,

E. R. HALL,

J. C. AYRES,

The Memoirs Committee.

NEWS NOTES AND COMMENTS

Report of the Committee on Public Health and Legislation of the Memphis and Shelby County Medical Society on the official acts of Dr. Wallace Moore, Shelby County health officer and director of the Shelby County

Health Department from May, 1930, to September, 1939.

Soon after Dr. Moore was appointed to the above specified position, your committee, composed of Dr. W. L. Williamson, Dr. H. B. Everett, Dr. Neumon Taylor, and Dr. Battle Malone (Dr. Malone was unable to go with the committee), called upon Dr. L. M. Graves, city health officer, and Dr. Moore, county health officer, at the office of Dr. Graves at the City Health Department to go over and discuss public health policies. Dr. Moore carried out the recommendation of the committee and has on numerous occasions consulted with members of the committee for their approval of considered policies. Your committee feels that Dr. Moore has attempted to act upon the advice of your committee and in cooperation with and according to the principles of the Memphis and Shelby County Medical Society for the instruction, aid, and benefit of the people of Shelby County.

Based upon this report, we, your committee, offer the following resolutions:

Whereas, Dr. Wallace P. Moore was, during his tenure of office as Shelby County Health Officer and Director of the Shelby County Health Department, courteous and cooperative with your committee at all times and consulted members of your committee as to policies where his discretion could be used; and

Whereas, Dr. Moore attempted to conduct the Shelby County Health Department on a high ethical plane, giving the people a common-sense, constructive program by education and demonstrations, working in harmony with the community physicians and directing patients to them as their counsellors and advisors in all their medical need.

Therefore Be It Resolved, That the Memphis and Shelby County Medical Society hereby goes on record as approving the work and policies of Dr. Wallace P. Moore during the time of his services as Shelby County Health Officer and Director of the Shelby County Health Department, dating from May, 1930, until September 1, 1939; that the hearty thanks of this society are hereby extended to him for the courteous and cooperative spirit manifested by him at

all times toward this body in the discharge of his official duties; and, further, that our sincere best wishes for his continued welfare are hereby tendered to him.

E. C. ELLETT,

H. B. EVERETT,

W. L. WILLIAMSON, *Chairman,*
Committee.

OUR MEMBERSHIP

On the first of October the membership of the Tennessee State Medical Association was 1,660. This compares favorably with 1938's total membership of 1,647 and the September 30, 1938, membership of 1,627.

A few have not yet paid 1939 dues and we desire to urge every secretary to make these collections and forward them to us immediately.

It is not unreasonable to set the 1939 goal at 1,700 members. That number would be the largest membership within recent years.

CHANGE OF ADDRESS

The following physicians have changed their addresses:

Dr. S. E. Johnson, 5810 Cowen Place, Seattle, Washington, to 401 Post Office Building, Oklahoma City, Oklahoma.

Dr. E. V. Pollard, Knoxville, to Lying-In Hospital, Chicago, Illinois.

Dr. M. M. Satterfield, Memphis to Trezevant, Tennessee.

Dr. John A. Conroy, Sevierville, to 217 Western Avenue, Cambridge, Massachusetts.

Dr. A. E. Hardison, Maryville, to 1104 Eastdale Avenue, Nashville.

Dr. Milton C. Wiggins, Paris, to 1930 East Fourth Street, Tucson, Arizona.

OUR ADVERTISERS

(Reprint from *The Journal of The Medical Society of New Jersey*, October, 1939.)

Our advertisers are our partners in the project of *The Journal*. Oh yes, we could get along without the help of our advertisers, but we are grateful to them for paying the costs of the mechanical production and distribution of our monthly periodical,

and then too, our members appreciate the information and educational value of the advertisements to themselves personally. For one thing, our acceptance of an advertisement amounts to an endorsement of the product or service of the advertiser, especially of his character and reliability. Also, the advertisements constitute an index of the sources from which products or services may be obtained.

One of the most pleasing and satisfactory evidences of the mutual appreciation of advertisers and users of their products is that afforded by the commercial exhibits at the annual meeting. There, sincere appreciation and good fellowship prevails between the representatives and the doctors, just as it does between the physician and his patient.

An advertisement in *The Journal* is like the doctor's sign over the door of his office. Only a small proportion of those who pass by the sign ring his doorbell; but if his sign is not in plain sight, he may as well close up. Only a few doctors read the advertising pages of our *Journal* from end to end, but some really do, and more actually complain when they cannot find the advertisement giving the address of the dispenser of a product which they must have in a hurry.

About one-half of our advertisements come to us from the Cooperative Medical Advertising Bureau of the American Medical Association, whose sole function is to place the announcements of the leading manufacturers of medical products which have a nation-wide distribution. A favorite device for testing the effect of the advertisements in the State Medical Journals is the use which physicians make of coupons offering samples or literature. One publisher of an expensive encyclopedia refused to renew his advertisement in the journal of one of the large medical societies because he had not received a single request for sample pages which he had offered. He said in a half joking way: "If I receive four coupons from an announcement in the forthcoming issue of your journal, I will immediately renew the advertisement." It happened that he received twelve requests, and he gladly kept his word.

Every doctor sees these coupons and other offers in our *Journal*, and many physicians are inclined to respond to them, but neglect to do so. If you are really interested in the offer, as many of you are, make use of it at once. This is especially important during the coming fall months when decisions for renewing the advertisements are made, based on the tangible evidence that the advertisements are actually read and appreciated.

It is a gratifying fact that several large advertisers are placing trial advertisements in the State Journals. Although you may not recognize your prospective customers, send for the coupons and literature that are offered in *The Journal*, and thereby demonstrate your interest in *The Journal* as well as the products which you will receive.

Finally, remember this fact: If it were not for the contributions of our advertisers, your annual dues would be increased by about three dollars.

Dr. Thomas D. Moore announces the association of Dr. A. Lynn Herring for the practice of urology and urological surgery. Suite 102-110 Physicians and Surgeons Building, Memphis.

WOMAN'S AUXILIARY

President.....	Mrs. Matt Murfree Murfreesboro
President-elect.....	Mrs. W. T. Braun Memphis
Press and Publicity.....	Mrs. R. Z. Linney Madison

The annual State Board Executive Meeting was held September 29 in Nashville at the Belle Meade Country Club. The meeting was well attended. Following the luncheon Mrs. Matt B. Murfree, our state president, opened the business meeting by reading the following:

EULOGY OF THE DOCTOR

"There are men and classes of men who stand above the common herd, the soldier, the sailor, the shepherd not infrequently, the artist rarely, rarelier still the clergy-

man, the physician almost as a rule. As the flower of our civilization, and when that stage of man is done with, only to be marveled at in history he will be thought to have shared but little in the defects of the period and to have most notably exhibited the virtues of the race. Generosity he has, such as is possible only to those who drive a trade; discretion, tested by a hundred secrets; tact, tried in a thousand embarrassments; and what are more important, Herculean cheerfulness and courage. So it is that he brings air and cheer into the sick-room and often enough, though not so often as he desires, brings healing."—*Robert Louis Stevenson*.

Splendid reports were given by the following chairmen of committees. Those present were: Mrs. Matt B. Murfree, Mrs. W. T. Braun, Mrs. James A. Scott, Mrs. Walter S. Nash, Mrs. S. J. Platt, Mrs. Fowler Holabauagh, Mrs. Lynch Bennett, Mrs. J. M. Dorris, Mrs. B. F. Byrd, Mrs. W. F. Fessey, Mrs. H. E. Christenberry, Mrs. Hollis Johnson, Mrs. Henry C. Long, Mrs. W. O. Baird, Mrs. H. H. Hudson, Mrs. Walter A. Ruch, Mrs. Cleo Miller, Mrs. W. W. Potter, Mrs. Theodore Morford, Mrs. H. B. Everett, Mrs. Y. W. Haley, Mrs. R. Z. Linney, Mrs. Otis Warr, and Mrs. Clyde Crosswell.

DAVIDSON COUNTY

Mrs. J. Travenick, president of the Nashville Academy of Medicine and Davidson County Society, entertained the Executive Board members in September at her home on Granny White Pike. Following a delightful luncheon the business meeting was held. There were fifteen members present. Mrs. Matt B. Murfree of Murfreesboro, state president, was a special guest.

KNOX COUNTY

The annual picnic was held on the evening of September 16 at the home of Dr. and Mrs. J. B. Neil. About 100 doctors and their wives attended.

SHELBY COUNTY

Following is a list of officers of the Woman's Auxiliary to the Memphis and Shelby County Medical Society.

President—Mrs. Walter A. Ruch.

President-elect—Mrs. W. C. Chaney.

First Vice-President—Mrs. John J. Shea.

Second Vice-President—Mrs. Newton Stern.

Third Vice-President—Mrs. Edwin Lipscomb.

Fourth Vice-President—Mrs. W. M. Adams.

Recording Secretary—Mrs. J. Cash King.

Corresponding Secretary—Mrs. Francis Murphy.

Treasurer—Mrs. Jewell Dorris.

Parliamentarian—Mrs. Clyde Crosswell.

Historian—Mrs. J. A. Buchignani.

Standing Committees

Program—Mrs. H. W. Sale.

Public Relations—Mrs. H. C. Schmeisser.

Press and Publicity—Mrs. John J. Shea.

Legislation—Mrs. H. B. Everett.

Membership—Mrs. W. C. Chaney.

Contact—Mrs. T. P. Nash, Jr.

Revisers—Mrs. W. C. Campbell.

Finance—Mrs. D. H. James.

Exhibits—Mrs. W. L. Simpson.

Tuberculosis—Mrs. A. B. Tripp.

Maternal Welfare—Mrs. C. H. Glover.

Resolutions—Mrs. O. P. Walker.

Hygeia—Mrs. E. C. Mitchell.

Benevolent—Mrs. J. T. Moss.

Needlework Guild—Mrs. O. W. Hyman.

Cancer Control—Mrs. C. A. Bender.

Social Service—Mrs. R. O. Rychener.

Red Cross—Mrs. W. T. Braun.

Better Films—Mrs. W. T. Braun.

Luncheon Chairman—Mrs. C. D. Allen.

Equipment—Mrs. L. M. Graves.

Room Chairman—Mrs. E. D. Connell.

Telephone—Mrs. Edwin Lipscomb.

Hospitality—Mrs. J. D. Shannon.

Visiting—Mrs. W. M. Adams.

Entertainment—Mrs. C. D. Blassingame, Jane E. Crawford, and Mrs. W. T. Braun.

Board of Directors—Mrs. W. T. Braun, Mrs. E. C. Mitchell, Mrs. Chester Allen, and Mrs. Charles Bender.

MEDICAL SOCIETIES

Davidson County:

The following papers are scheduled to be read:

October 17—"An Evaluation of the Electrocardiograph in Clinical Medicine," by Dr. W. R. Cate.

October 24—"The Treatment of Hemorrhage in Peptic Ulcer," by Dr. Jack Witherpoon.

"Surgical Treatment of Peptic Ulcer," by Dr. L. W. Edwards.

October 31—"Internal Derangements of the Knee Joint," by Dr. Robert R. Brown.

November 7—"The Treatment of Uterine Prolapse," by Dr. W. C. Dixon.

November 14—"Pruritis Ani," by Dr. D. W. Smith.

Dyer, Lake, and Crockett Counties:

The Dyer, Lake, and Crockett Counties Medical Society met in regular monthly session on October 4, 1939. Scientific program:

"Diagnosis and Treatment of Prostatic Obstruction," by Dr. I. G. Duncan, Memphis.

"The Present Conception of Vitamin Therapy," by Dr. J. A. Hanna, Memphis.

"Practical Neurological Signs and Symptoms," by Dr. Nicholas Gotten, Memphis.

"More Recent Advances in the Treatment of Migraine," by Dr. Wm. C. Chaney, Memphis.

(Signed) C. L. DENTON, *Secy.*

Hamilton County:

The following papers have been read before the Hamilton County Medical Society:

September 21—"Cataracts," by Dr. Alvin H. Benz.

"The Roentgen Ray in the Treatment of Infections," by Dr. J. Marsh Frere.

September 28—"Management of Fractures Following Reduction," by Dr. J. R. Fancher.

October 5—"Surgical Treatment of Non-calculous Cholecystitis," by Dr. Fay B. Murphey.

October 12—"Surgery in the Treatment of Duodenal Ulcer," by Dr. A. M. Patterson.

The following papers are scheduled to be read:

October 19—"Obscure Fever," by Dr. V. E. Marsh.

"Malignant Lesions of the Skin," by Dr. F. B. Bogart.

October 26—Chattanooga Clinical Congress.

November 2—"Intracapsular Cataract Operation: Demonstration, Motion Picture, Cases," by Dr. Stewart Lawwill.

November 9—"Fracture of the Hip: Four Years' Experience with Internal Fixation—Nailing," by Dr. Robert C. Robertson.

Hardin, Lawrence, Lewis, Perry, and Wayne Counties:

The Five-County Medical Society met in Waynesboro on September 26. The following papers were read:

"Rupture of the Uterus," by Dr. C. C. Stockard, Lawrenceburg.

"The Use of Sulfapyradine in Pneumonia," by Dr. Richard E. Ching, Memphis.

"Contraceptives," by Dr. J. V. Hughes, Savannah.

"Recent Advances in the Treatment of Cancer of the Breast," by Dr. Charles G. Andrews, Memphis.

We had a splendid crowd and a great deal of interest manifested.

Our next meeting will be at Waynesboro, October 31, 1939.

(Signed) O. H. WILLIAMS, M.D., *Secy.*

Knox County:

The Knox County Medical Society reconvened on September 19, with Dr. Edward T. Newell of Chattanooga as guest speaker.

On September 26 Dr. A. G. Hufstедler addressed the society on "Our Responsibility to Infants and Young Children." Dr. Joe T. Smith led the discussion.

OTHER MEDICAL SOCIETIES

The Sixth Conference of Southern Pathologists will be held at the University of Tennessee, Memphis, Monday, November

20, 1939, just preceding the meeting of the Southern Medical Association.

This conference has as its purpose a very informal round-table discussion of some of the problems which the science, teaching, and practice of pathology present to us at this period in the development of our southern medicine and medical education.

This program will be limited to two papers and discussion in the forenoon and two in the afternoon. Two papers to be devoted to a pathological and two to a clinical pathological topic, each paper and discussion to be limited to one hour. There will also be a tour of departments and a complimentary luncheon and dinner.

One hundred professors of pathology, clinical pathologists, city, county, and state health officers, and pathologists of the federal government have been invited to attend and participate in this conference.

I suggest that they make hotel reservation without delay. Dr. John J. Shea, 1018 Madison Avenue, Memphis, Tennessee, will supply lists of hotels and rates prevailing during the meeting of the Southern Medical Association.

HARRY C. SCHMEISSER, M.D.

The East Tennessee Medical Association met in Greeneville on October 3. Dr. J. M. McCulloch, Maryville, is secretary-treasurer.

COMING MEETINGS

American Academy of Pediatrics, Cincinnati, November 16-18. Dr. Clifford G. Grulee, 636 Church Street, Evanston, Illinois, secretary.

American College of Surgeons, Philadelphia, October 16-20. Dr. Frederic A. Besley, 40 East Erie Street, Chicago, secretary.

American Medical Association, New York, June 10-14, 1940. Dr. Olin West, 535 North Dearborn Street, Chicago, Illinois, secretary.

American Public Health Association, Pittsburgh, October 17-20. Dr. Reginald M. Atwater, 50 West Fifth Street, New York, executive secretary.

American Society of Tropical Medicine, Memphis, Tennessee, November 21-24. Dr. E. Harold Hinman, Wilson Dam, Alabama, secretary.

Gulf Coast Clinical Society, Mobile, Alabama, October 26, 27. Dr. Clyde C. Rouse, 56 St. Joseph Street, Mobile, Alabama, secretary.

Interstate Postgraduate Medical Association of North America, Chicago, Illinois, October 30-November 3. Dr. W. B. Peck, 27 East Stephenson Street, Freeport, Illinois, managing director.

Midsouth Postgraduate Medical Assembly, Memphis, February 13-16, 1940. Dr. A. F. Cooper, Goodwyn Institute Building, Memphis, secretary.

Middle Tennessee Medical Association, Springfield, November 16. Dr. Fowler Hollabaugh, secretary.

Radiological Society of North America, Atlanta, December 10-15. James J. Clark, M.D., vice-president, 478 Peachtree Street, Atlanta, Georgia.

Southern Medical Association, Memphis, November 21-24. Mr. C. P. Loran, Empire Building, Birmingham, Alabama, secretary.

Tennessee State Medical Association, Chattanooga, April 9-11, 1940. Dr. H. H. Shoulders, 508 Doctors Building, Nashville, secretary.

West Tennessee Medical and Surgical Association, Jackson, May, 1940. Dr. George R. McSwain, Paris, secretary.

EXAMINATIONS

American Board of Obstetrics and Gynecology, January 6, 1940. Dr. Paul Titus, 1015 Highland Building, Pittsburgh, Pennsylvania, secretary.

ABSTRACTS OF CURRENT LITERATURE

ANESTHESIA

By HUGH BARR, M.D.
Medical Arts Building, Nashville

One Thousand Tonsillectomies Using Avertin as a Basal Anesthesia. Woodson. Current Researches in Anesthesia and Analgesia, May-June, 1939.

Eighty per cent of these cases were in children whose ages ranged from three to eighteen. No preliminary opiate was used to avoid respiratory depression. Atropine only was employed. When complete amnesia was obtained the patients were taken to the operating room and enough ether or nitrous oxide administered to produce the first or second plane of the third stage of anesthesia.

The mouth prop is inserted and the tonsils are removed by any of the various methods. If there is prolonged bleeding a little supplemental anesthetic is added. The ether blower is never used. The pillars are relaxed, yet there is no obliteration of the throat reflex. They sleep from thirty minutes to two hours. Only a small per cent vomited. Amnesia failed to be produced in fifteen per cent due to faulty technique, improper preparation, idiosyncrasy, and improper dosage.

It is contraindicated in subjects suffering from heart, lung, kidney, or liver damage. Also is not to be used in people who are drug addicts or who have colitis.

DERMATOLOGY

By E. E. BROWN, M.D.

Doctors Building, Nashville

Nonspecific "Desensitization" Through Histamine. Laurence Farmer. *Journal of Immunology*, 36: 37 (January), 1939.

It has been widely assumed that the phenomena of anaphylactic shock are caused by histamine or histaminelike substances since Dale first suggested this. There has been no direct chemical proof, however, for this assumption. The author administered histamine by intra-abdominal injection to a series of sensitized guinea pigs. Uterine strips from these animals were examined twenty-six to thirty-six days after sensitization. The author summarized his observations as follows: The uterine strips of normal guinea pigs that had received injections of histamine at the height of sensitization were less sensitive to the specific antigen than were the sensitized uterine strips of the control animals. The uterine strips of the normal guinea pigs that had received injections of histamine were less sensitive to histamine than were the uterine strips of the untreated controls. These experiments suggest that histamine is the substance responsible for the anaphylactic contraction of plain muscles; that it is possible to desensitize sensitized guinea pigs nonspecifically by injections of histamine. The author believes that the observed phenomena are further indirect proof for the correctness of Dale's theory of the anaphylactic mechanism. He thinks these findings also furnish a basis for an understanding of the mechanism of non-specific "desensitization" by histamine.

INTERNAL MEDICINE

By R. B. WOOD, M.D.

By D. R. THOMAS, M.D.

Medical Arts Building, Knoxville

The Treatment of Undulant Fever with Sulfanilamide and Related Compounds. Blumgart and Gilligan. *Medical Clinics of North America*, September, 1939.

Over thirty reports in the past two and one-half years have appeared on the effectiveness of sulfanilamide and related compounds in treatment of undulant fever embracing seventy-four cases to May, 1939.

The daily dosage of sulfanilamide varied much as did the duration of administration. Only in a few cases was blood sulfanilamide concentration done. From studies made it seems that fever disappears as promptly on a daily dosage of two to three grams as with five grams, the temperature becoming normal usually between the second and twelfth days of treatment (average time being six to seven days).

In a total of seventy-four cases, only six failures were noted, and in three of these reported by Neu-

mann dosage of sulfanilamide was inadequate. In the sixty-eight cases of recovery, fifty-four showed no relapses and fourteen showed one relapse, but were not as ill as in the primary instance and recovered after a few days further sulfanilamide therapy. Relapses occurred usually from a few days to two weeks after cessation of therapy.

Since average time of disappearance of fever is six or seven days and sulfanilamide is continued a few days after patient becomes fever free, total duration of treatment will average about twelve days.

The authors feel there are no toxic manifestations to sulfanilamide peculiar to patients with undulant fever. Those which call for immediate withdrawal of the drug are dermatitis, agranulocytosis, acute hemolytic anemia, and the appearance of unexplained fever. They find no cases reported with serious toxic effects of sulfanilamide, but advise daily hemoglobin and white blood cell determinations. Most of the reported cases were treated within the first two months and they have evidence of its effectiveness in cases of a longer duration.

OBSTETRICS AND GYNECOLOGY

By HAMILTON V. GAYDEN, M.D.

Suite 234 Doctors Building, Nashville

Family Trends According to Economic Status. C. P. Shelton. *American Journal of Obstetrics and Gynecology*, Vol. 38, p. 480.

Although human fertility is altered by social status, occupation, urbanization, education, religion, biologic factors, etc., the economic situation is of considerable importance in determining the size of a family. We have witnessed during the past several years the effects of an economic depression during which large numbers of persons have had their mode of living disrupted. Family incomes are in many instances low and the relief rolls are enormous. This study is based upon records of 964 women who were delivered at the Albany Hospital, Albany, New York, in the years 1931, to 1935, inclusive.

There is an inverse relationship between size of family and economic status. The average interval between delivery and succeeding pregnancy for the group supported by public funds was 12.5 months, while the interval for the self-sustaining group was 22.4 months. Reproductive wastage (abortions, miscarriages, and stillbirths) and infant mortality are highest in the low-income group in which fertility is greatest. One thousand pregnancies in the group supported by public funds produced 772 infants one year old, while 1,000 pregnancies in the self-sustaining group produced 861 surviving infants. Greater reproductive wastage and a higher infant mortality rate partially compensate for the increased incidence of reproduction in the low-income group.

OPHTHALMOLOGY

By ROBERT J. WARNER, M.D.
Doctors Building, Nashville

A Case of Postoperative Endophthalmitis Cured by Prontosil. T. H. Butler. American Journal of Ophthalmology, September, 1939.

A patient seventy years of age had the left lens extracted by the combined method and was discharged twenty-one days later. Ten days later there was some reaction and seventeen days later no corneal precipitates were present, but the anterior chamber was filled with masses of dense yellowish exudate like a thick hypopyon. He was readmitted to the hospital and put on atropine and four tablets of white prontosil (sulfanilamide) four times a day. Three days later there was marked improvement, and ten days later the exudate had disappeared and the iris was free of injection. The capsular membrane was opened two months later and the eye remained free from injection with corrected vision of 6/12.

PEDIATRICS

By JOHN M. LEE, M.D.
Doctors Building, Nashville

Malignant Tumors in Childhood. Harold W. Dargeon, M.D., New York. The Journal of Pediatrics, 15: 317, 1939.

Knowledge of cancer dates back to records of the Egyptians of 1550 B.C. While Hippocrates and later writers described conditions that might have been malignancies in children, Bartholinus in the seventeenth century is credited with the first description of cancer in a child. In recent years many case reports of malignancies in the early years have been published.

It is generally believed that numerous children die with unrecognized cancer, and for this and other reasons the incidence of the condition in children is hard to determine. In the New York Foundling Hospital group of children which is constantly about 4,000, six cases of cancer were diagnosed in a period of three years. In 1935, the following numbers of deaths in the United States were reported in children under fourteen years of age: cancer, 903; typhoid fever, 770; poliomyelitis, 706; tetanus, 559; acute rheumatic fever, 763; diabetes mellitus, 467.

At this age all types of cancer are observed and no organ is immune. Sarcomas outnumber carcinomas, and embryonal and neurogenic tumors occur more frequently than the others. There is a tendency to rapid growth and early metastasis at this age. In 218 cases at the Memorial Hospital the sites involved were as follows: bones, 79; soft somatic tissues, 41; lymphoid tissues, 33; head and

neck, 37; genitourinary tract, 17; gynecologic system, 6.

Diagnosis of cancer still rests on the history and physical findings. There is no single laboratory test that gives an early hint. Blood counts, urinalyses, X-rays, and blood chemistry are aids. The symptomatology may simulate other common diseases, and cancer should be considered if the diagnosis is obscure. The history of a slowly growing mass, anorexia, and loss of weight is more the exception than the rule in childhood cancer. They may or may not be a history of trauma. Brain and cord tumors and retroperitoneal cancers may simulate in symptomatology acute surgical conditions of the abdomen. Fever may be associated with certain types of new growth. Cushing urges that eye grounds be examined every two weeks in suspected, but unproved cerebral tumor.

Children with cancer compare with the average hospital group in weight, height, physical, and mental development. An abnormal persistent swelling anywhere in the body, an asymmetry of corresponding parts of the body, or the overgrowth of the body as a whole may be caused by a tumor.

The findings in cancer of the viscera vary, but a few common signs are noted. Malignancy of the eye may produce dilatation of one pupil and a green, gray, or white reflex. Pharyngeal cancer may produce obstructive breathing, especially in a child over two years of age. Persistent cervical adenopathy, especially if asymmetrical, should suggest malignancy. The disease may produce enlargement, tenderness, and interference with function in bones of the extremity. Renal tumors usually present palpable masses.

Blood counts are generally helpful in diagnosing lymphoid cancers. Blood calcium, phosphorus, and phosphatase studies in connection with roentgenography are of diagnostic and prognostic value, especially in bone cancer. X-ray films and biopsy are of great value in diagnosis and determination of the tumor type.

The prognosis in childhood cancer is very grave, though in many types of malignancy at this age it is by no means hopeless. Twenty-one cases are reported of children with cancer who have survived from five to sixteen years. The mortality rate is very high and will be reduced when earlier recognition of the disease permits treatment to be given more promptly.

ROENTGENOLOGY

By FRANKLIN B. BOGART, M.D.
Medical Arts Building, Chattanooga

Roentgen Therapy of Carefully Selected Sinus Infections. F. M. Hodges and L. O. Sneed. Radiology, Vol. 32, No. 6, p. 669, June, 1939.

Routine sinus films in obscure chest conditions have revealed many unsuspected sinus infections. Many infected sinuses were revealed in persons

who had been treated by one or more rhinologists and pronounced cured. These findings indicate:

1. That sinus disease is far more prevalent than is usually believed.

2. That on account of the meager symptoms, its diagnosis is being overlooked in the majority of instances.

3. That the treatment is frequently inadequate.

4. That in many instances, no accurate method of checking the results of therapy is being routinely used.

Butler and Woolley summarize the results of their experimental work on induced sinusitis on cats as follows:

"The effect of the X-ray treatment appears to be due primarily to an early destruction of the lymphocytes in the infected membranes. From forty-eight to seventy-two hours after treatment of membranes, which had been infected for several weeks, there appears to be an increase in the number of macrophages. These are believed to come in response to substances released by the breaking down of the lymphocytes. These macrophages are seen to be laden with cellular debris and dead pigments. It is possible that they also engulf bacteria.

"The membrane becomes gradually reduced in thickness, but retains numerous plasma cells, polymorphs, and some histocytes. After a week or more some fibrosis appears.

"There is no evidence of injury to the cilia, epithelium, or cellular elements other than the lymphocytes as the result of X-ray dosage. The fibrosis is considered a result of the inflammatory process and the increased number of histocytes immediately following the infection."

The authors group cases of sinusitis as follows:

Group 1.—Acute sinusitis in which there is good drainage. These will usually clear up with the use of the usual astringents, packings, and washings. X-ray unnecessary in these cases unless used to hasten recovery.

Group 2.—These include those cases that have had symptoms for several months to several years and might be classed as subacute or subchronic. Usually there is a history of recurring colds and a cough. Films show cloudy ethmoids with marked thickening of the membrane of the antra. Washings cause little or no change in the appearance of the antra, showing that there is little or no free pus. These cases are the ones that respond best to irradiation.

Group 3.—Symptoms have been present for years, usually with hyperplastic sinusitis. There is marked cloudiness of the ethmoids and marked thickening of the membrane of the antra. Group 2 gradually shades into Group 3, and an accurate history is often necessary for classification. The longer the duration, the poorer the results that may be expected. The majority of cases in this group have responded to X-ray therapy.

Group 4.—Early or reasonably early polypoid changes especially in the nose, with a history of

infection for many years. The diagnosis naturally often has to be made by the rhinologist. In a majority of these cases, improvement has followed irradiation.

Group 5.—Old exceedingly chronic polyp formation, usually widespread, is present. Only a few of these have received any benefit from irradiation.

TECHNIC

Groups 1, 2, and 3 have been treated with 130 kv.p. and six millimeters aluminum filter, 300r measured in air being given in three or four treatments over a period of one to three weeks. Children have been given smaller doses.

Groups 4 and 5 have been treated with 200 kv.p. with from .5 to two millimeters copper, a total dose of 600r measured in air being used (this divided into several treatments).

SUMMARY

1. Sinus disease is a far more common, complicated, and serious condition than is realized by the general medical profession.

2. Almost every common cold that does not clear up within a reasonable time is a sinus infection. Many are due to allergy.

3. Preliminary sinus films, on patients sent in for chest examinations, disclose a great many unsuspected infections.

4. This, many times, enables the patient to be referred to the rhinologist earlier with better results from treatment.

5. Follow-up films to determine progress are just as important here as in other conditions.

6. In addition to the treatment by the rhinologist, many cases can be markedly benefited by roentgen therapy.

7. We believe there is a definite field for this method of therapy in carefully selected cases of sinus infections.

8. A wholehearted and sincere cooperation between the rhinologist, radiologist, and the allergist is absolutely essential if the best results are to be obtained.

SURGERY—GENERAL AND ABDOMINAL

By BATTLE MALONE, II, M.D.
1400 Monroe Avenue, Memphis

The Pathogenesis of Crisis and Death in Hyperthyroidism. Harold L. Foss, M.D., Henry F. Hunt, M.D., and Robert M. McMillan, M.D. *Journal of American Medical Association*, 113: 1090-1094, 1939.

Although it is known that in thyroid crisis there are profound toxemia and overwhelming disturbances of metabolic processes, the exact pathogenesis is still not understood. Postoperative crisis has fallen to an apparently irreducible minimum through careful preoperative preparation and meticulous planning of operative procedures, and when it does occur it is curiously enough in the cases in which

it is not expected. Semiconsciousness, extreme restlessness, an uncountable pulse, cyanosis, delirium, and finally death compose the picture of crisis.

The author discusses several series of cases of toxic goiter reported by different men and it is shown that crisis accounts for fifty per cent of the mortality in goiter patients. In a considerable number of cases dying from thyroid crisis, death occurs before operation. Delay, inadequate preoperative preparation, operations not properly planned, infection, minor diagnostic and therapeutic procedures, an age of sixty or more, emaciation, a basal rate which fails to fall materially even after prolonged treatment, a loss of weight of forty pounds or more, toxic goiter of ten to fifteen years' duration, interminable medication with iodine—these are the factors which if present may bring on a thyroid crisis. It is not thought that the anesthetic is an important factor. Several theories have been offered as an explanation of crisis, but none has been generally accepted.

In extensive studies of the pathologic anatomy in cases dying from thyroid crisis, changes in the heart, liver, and thymus have been found in a majority of cases, but these findings are by no means constant. In cases of hyperthyroidism the weight of the heart exceeds the maximal standard values even where there is no hypertension or complicating cardiac disease. Degenerative changes are found in the liver in a high percentage of cases, but by no means in all of them. A persistent and hypertrophied thymus is found in a majority of patients dying in crisis.

In an analysis of twenty-nine cases which came to autopsy the immediate cause of death was, clinically, thyroid crisis, the other nine having died from other causes. However of the twenty cases which appeared clinically to have had thyroid crisis, nine showed at necropsy evidence of overwhelming infection, antedating the symptoms of crisis. In the remaining eleven cases post-mortem examina-

tion was directed mainly toward the heart, liver, and thymus. The heart was normal in three patients. The others showed evidence of various cardiac diseases. There was only one normal liver found, the rest showing necrosis in the center of the lobules. Fatty degeneration of the liver cells was present in eight patients. The authors conclude that while the liver, heart, and thymus are affected by crisis the actual cause and mechanism remains to be discovered by the physiologist and experimental pathologist.

UROLOGY

By TOM R. BARRY, M.D., F.A.C.S.
By G. A. WILLIAMSON, JR., M.D.
Medical Building, Knoxville

Tumor of the Testis in an Infant. J. Howard Shane. Southwestern Branch, American Urological Association, 1938.

Tumors of the testis are comparatively common in the adult, occurring most frequently between the twentieth and fiftieth years. In infancy and childhood these tumors are rare, occurring about once in every 200 testicular tumors reported. Embryomas are most frequently found in childhood, while seminomas are more common in adults.

This author reports a case of an infant, aged four months. Two weeks after birth the mother noticed enlargement of the left testicle. When four months of age the mother consulted a doctor who found the baby to be normal in every way except a left testicle the size of a small hen's egg. There were no palpable masses in the groin or abdomen. The Aschheim-Zondek test was negative for prolactin A.

The testicle was removed and the tumor proved to be a primary embryonal carcinoma, grade II. Five months later the infant was developing normally and there were no evidences of metastasis.

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POSTGRADUATE MEDICAL EDUCATION*

MAXWELL EDWARD LAPHAM, M.D., F.A.C.S., New Orleans, Louisiana

I FEEL DEEPLY honored to have been asked to address the graduating classes of the University of Tennessee Schools of Medicine, Pharmacy, and Nursing. The subject of this discourse, "Postgraduate Medical Education," may seem untimely on this particular occasion when you as graduates have just completed your academic work, and no doubt have a feeling that you are eminently prepared to assume the medical responsibilities which may confront you. I suppose any allusion to this day being just the beginning of your study of medicine would seem apocryphal.

Nevertheless, one must realize that changes are taking place daily in our knowledge of medicine, and unless one begins the practice of medicine with the firm resolution to keep abreast of the times, he will soon sink into mediocrity. The medical scene is a rapidly changing one. It reminds me of the cartoon I recently saw which depicted a contractor rushing to completion the construction of a New York apartment house so that it could be demolished to make place for another more modern one.

As medical graduates, you will soon begin your first experience in postgraduate medical education when you assume your positions as internes. There are still some states which permit men to practice without an internship, but fortunately at this time

most medical students realize the importance of this valuable training, and, thanks to this opportunity, they become better physicians for taking advantage of hospital training.

Internships are not always all that could be desired so far as training of young physicians is concerned, since hospital routines and mass care often prevent the careful study of individual cases. Some hospitals are obviously better teaching institutions than others, but the Council on Medical Education and Hospitals of the American Medical Association, as well as the medical graduate, can be assured of relatively good training in those hospitals approved for internships.

At times you may think you are being abused because a great deal of work and long hours will be required of you. You will think the food is bad and that the hospital is making money by the sweat of your brow. You will have indignation meetings, you will resent the attitude of efficient nurses, who know hospital routines better than you do; you will think that your interne colleagues are getting better services than you are; you will be convinced that you are more clever than your chief because you luckily or thoughtfully outsmarted him in the diagnosis of a case. All of these reactions seem to be common and normal to the average interne. In retrospect, particularly in the first lean years of practice, the hospital food will assume the aspect of a

*Address delivered to the graduating class, University of Tennessee, Memphis.

banquet, you will often wish for the assistance of the nurse you had previously thought to be officious, you will realize at some time the freedom from responsibility which was your lot because you had the staff members with whom to consult. At the same time, you will have had great opportunities to care for numbers of patients with relative freedom to use your own initiative. You will realize that you were seeing a good cross section of your future practice under excellent conditions in which to study patients and diseases. Finally, after you have been in private practice for a time, the interne years will stand out as the happiest and, in a practical and scientific way, the most profitable years of your medical experience.

Probably the most satisfactory internship is one in a teaching hospital where work of the internes is supervised, and excellent medical practice is seen daily. Greater stress should be laid on a longer training in internal medicine, particularly for the man who intends to practice general medicine. Good teaching is also given in hospitals which have no medical school affiliation, and the good medical student will be benefited by a service in a nonteaching hospital. However, most of us actually do need supervision and instruction at this particular time in our careers, even though they may be irksome. In all hospitals some plan for the instruction of internes should be outlined so that the training will not be just the casual ward work or operating room experience. Besides the supervision of the clinical work and record keeping, there should be well-regulated staff meetings where mortalities and morbidities are studied. Clinical pathological conferences and opportunities to study pathological specimens add to the interest and value of an internship, at the same time maintaining good standards for the hospital. The tactful and thoughtful management of patients and families of patients should be impressed upon the interne by staff members.

If further special study is planned, there is no better background than that good internship. Many men elect to specialize immediately following the interne years,

and residencies in specialties are available in many hospitals, particularly in the medical school hospitals.

It is most important that residencies in special graduate work be well organized so that the graduate student can have the opportunity to review the preclinical subjects in reference, particularly, to their application to the specialty under consideration. The graduate resident should take an active part in seminar meetings with the staff members acting only as advisers. This is a means by which the student develops his ability to read the literature, obtain the desired information, and present it intelligently.

Most graduate courses in a specialized field should be of several years' duration, and the student should be allowed to assume progressively greater responsibilities until it is finally determined that he is qualified to practice his specialty. Great improvement has been made in raising the standards of medical specialists by the creation of specialty boards which pass upon the qualifications of a physician who desires to confine his practice to a particular branch of medicine. It is gratifying to realize that the profession has determined to create and maintain high standards of medical practice without the legal injunction of state or federal agencies.

The standards of training for internes and residents have been improving, and are now established on a fairly high level. This is the result of some coercion and pressure on the part of national medical groups, but much of the improvement in training for the young physician has resulted from the untiring efforts of medical school faculties and hospital staffs who have assumed the responsibility for an excellent grade of graduate education.

The continued training of the physician once he has assumed his role of the private practitioner depends largely on his desire to maintain a high degree of efficiency, born of previous examples of his teachers and the development of good habits of study. I recently heard Dr. Wm. O'Brien, director of Postgraduate Study at the University of Minnesota, say that all physicians could

maintain a high medical efficiency if they would develop the regular reading habit. The late Dr. William Mayo is said to have spent at least one hour daily in reading medical literature and another hour in reading nonmedical literature. If he failed to read one day, he made up the time later. He was one of the best-informed medical men in the world. I personally have developed the habit of reading upon retiring. It is not only a pleasant and quiet time to read, but this habit prevents insomnia. If one is as intensely interested in the practice of good medicine as he should be, he will read the current literature avidly and will make reading a part of his daily work and pleasure. There is no more pathetic picture than the one of a physician who has "gone to seed."

The busy practicing physician often feels he cannot afford to attend medical meetings, and I am forced to admit that many meetings are almost completely without value. This is particularly true of the county medical society meeting which frequently degenerates into an experience meeting. It has been my feeling for some time that such small meetings of medical men, who are well acquainted, could be made interesting and valuable if they were conducted as abstract or journal clubs, with several men making concise reports on pertinent articles in current medical journals. This is a method of reviewing current literature, of which there is a great amount, without burdening any individual. Petty professional jealousies should be put aside, and each physician should work to the ultimate benefit of himself and his colleagues, to say nothing of the patient. There is no reason why a group of intelligent physicians should not work in harmony in their communities, even to the point of reporting and discussing mortalities and morbidities. Seek consultation with other physicians who have something definite to offer in difficult and serious cases, and don't stoop to the practice of agreeing with a consultant just to "cover up" yourself or the other physician.

Larger medical meetings will rarely be without benefit. I have a friend in Virginia who is a regular attendant at a great many

medical meetings. He told me he had decided early in his medical career that if he obtained only one bit of new knowledge or was reminded of something of value he had forgotten, he considered himself amply repaid for attending the meeting. The stimulation one receives from meeting and hearing medical authorities is well worth the attendance at major medical organizations.

I have recently attended the Congress on Obstetrics and Gynecology. It was one of the most interesting meetings I have ever attended. By and large, there was little new information presented, but it was gratifying to be reassured that many of my practices are accepted by the representative men in those specialties.

One of the greatest inadequacies of the medical profession has been its failure to realize the importance of continued study. This, one might say, is due to the lack of interest or initiative on the part of individual physicians. Recently it seems that many physicians are desiring postgraduate facilities. Witness the sponsorship of extension courses and postgraduate medical assemblies by state medical societies and large groups of physicians, excellent examples of which you have in the city of Memphis and in the State of Tennessee. There seems to be a definite desire on the part of physicians to improve themselves.

It is, on the other hand, a well-known fact that many physicians will not take advantage of organized postgraduate courses, and only under pressure of lay or professional criticism will many attend such courses. This is due to indifference and lack of appreciation of their needs, and perhaps some of these physicians should never have entered the medical profession at all.

We all, however, need stimulation, encouragement, and leadership. I believe medical schools have failed to assume as much responsibility as they should have for the future welfare of their graduates and the profession in general. The majority of medical schools seem to feel that they have done their work when they graduate a class of medical students. About the only time we hear from our Alma Maters is when we receive the perennial requests for a dona-

tion to the endowment fund or to subscribe to a fund to perpetuate in oils one of our former professors. The responsibility of a medical school to its graduates should never cease. It should interest itself in securing good internships for its graduates. It should attempt to secure graduate residencies for worthy men. It should maintain a regular contact with its graduates by sending them the proceedings of scientific staff meetings and by keeping them acquainted with changing policies. It should assume the responsibility of maintaining interest in postgraduate study by a definite plan, not only among its alumni, but among physicians within its immediate sphere of influence.

Many methods are immediately available if medical faculties will realize the need and value of such an undertaking. Your own school is already jointly sponsoring statewide extension courses. This is an excellent, though possibly limited, method by which a school may participate in medical continuation study.

Intramural courses should be offered for the general practitioner in particular, for this is the largest medical group to be served. I believe every medical school faculty can give such courses once they have realized the need for them and have realized their obligations as leaders in the profession. It has been my experience that medical faculties feel postgraduate teaching is a burden, and the idea should be inculcated into young faculty men that this is as much a part of their work as undergraduate teaching. Until this idea is universally accepted, postgraduate teaching will not enjoy stability and progress. In order to conduct successful postgraduate courses, they must be organized by men who know what the general practitioner needs, and see that he gets it. It is the attitude of many medical faculties that postgraduate students can be told anything, and they must take it and like it. As a matter of fact, the man who takes time off from his practice to attend such a course wants value received, and has a right to expect it. Short courses of a few weeks can be offered, and should be planned to keep the student busy and actively in-

terested. They should not be too didactic, but balanced by lectures, clinic and ward work, journal clubs, and whatever practical and special procedures can reasonably be given. It should be the greatest satisfaction to a medical school to know that it has sent away postgraduate students who are satisfied and who will probably be better physicians for the efforts expended by the faculty.

Often a physician may want to take special work in some branch of medicine, either to improve that part of his general practice or to specialize. The University of Minnesota School of Medicine seems to have an excellent plan for continuation study. Physicians on the university list are asked the type of work they desire to have presented. If a group of twenty-five or so men request the same course, then plans are made for its organization. This plan assumes that the students are getting what they want, and should be well satisfied at the termination. The course is given for a week, and not only faculty members of that particular school are used, but exchange professors who are outstanding in their fields are employed. The best possible course is thereby presented. The content is diversified, and the students have the opportunity not only to hear didactic lectures, but they are given practical work in clinics, wards and laboratories. This plan does not increase the work of the staff over a long period of time, and the administrators feel that the students receive about all the instruction they can absorb for a time. They leave the course well satisfied and benefited, and have not stayed long enough to become disinterested. As a matter of fact, many physicians return frequently for these short courses. Incidentally, they are away from their practices for only a short time, and the course is not expensive.

Tulane University gives a course each year for its alumni at home-coming lasting a week. This is a means of showing them the accomplishments of the school as well as benefiting, we hope, to those who attend.

There are some physicians who may desire to study for a longer period in special branches of medicine, and it is occasionally

possible for various departments of a medical school to arrange for a few people to take courses lasting a year or more. This takes care of a few physicians who may want to go into a specialty or who may simply want to improve a particular part of their general practices.

Whatever I have said of postgraduate medical education may apply to professions allied to medicine, and so far as that is concerned, to every profession. If I could be sure that just one of you has been con-

vinced of the importance of continued education at the end of the discourse, I would think my feeble efforts had been worth while. Postgraduate medical education, as a part of adult education in general, is only just beginning to get under way, and every one of us, from the recent graduate to the most eminent leaders in education, needs to be stimulated by reading and contact with others of our profession to the ultimate benefit of ourselves and those we serve.

A CASE REPORT OF A RECURRENT ABSCESS OF THE THYROID GLAND

CARROLL H. LONG, M.D., Johnson City

ON SEPTEMBER 22, 1938, I saw Bill Godsey, a rather active man of seventy, who was lying in bed complaining of pain in the neck. Examination showed him to have a fever of 102 degrees Fahrenheit. There was no abnormality in the mouth, but in the left anterior triangle of the neck, there was a tense indurated tender mass, with signs of inflammation extending from the mandible down to the clavicle, with the greatest tenderness appearing just opposite and below the level of the thyroid cartilage. The patient was desperately ill and was seen daily until September 27, when he reported that during the preceding night something had burst into his throat and he had spit out a large quantity of foul-smelling material. Signs of inflammation noted above rapidly disappeared.

On September 9, 1939, this same patient was seen in the beginning stages of what appeared clinically to be a repetition of the same condition. On September 19, there appeared an area of fluctuation. Under local anesthesia an incision was made along the anterior border of the sternocleidomastoid muscle, through the deep fascia of the neck, where there was a large collection of foul-smelling, yellow pus. A finger was inserted through the deep fascia into the cavity, and on palpating the capsule of the thyroid gland an opening just admitting the finger was found.

It was the opinion of myself and Dr. Paul T. McBee, who was assisting in the operation, that the origin of the abscess was in the thyroid gland. The patient was seen frequently until September 26, at which time the wound was healed and symptoms and signs had disappeared.

AUSCULTATION IN THE DIAGNOSIS OF SURGICAL DISEASES OF THE ABDOMEN*

BARTON MCSWAIN, M.D., F. A. C. S., Paris

THE TERM "borborygmus" was employed by Hippocrates. Robert Hooke¹ a hundred years before Laennec suggested "that it may be possible to discover the motions of the internal parts of the bodies . . . by the sound they make that one may discover the works performed in the several offices and shops of a man's body and thereby discover what instrument or engine is out of order, what works are going on at several times and lie still at others" and mentioned the hearing of the "motion of the wind to and fro in the guts." Hooker³ described the frequency and intensity of intestinal gurglings in the course of different diseases of the digestive organs.

Although an occasional article on this subject appears, there is relatively very little in the literature about it, probably because as King⁴ says, it is "little used because peristaltic sounds, even under normal conditions, vary greatly with the intake of food and the stages of digestion. Therefore it is impossible to determine by its character the particular point of origin of the peristaltic contraction, although one may differentiate between the small intestine and the colon. In the light of our present knowledge, abdominal auscultation can distinguish only two conditions, the absence of peristalsis or its abnormal activity.

*Classification.*⁵—The intrinsic sounds are those produced in the abdominal cavity itself and the extrinsic sounds are those produced in the thorax, adjacent bones, abdominal wall or elsewhere. The methods of auscultation are direct, with the ear applied to the abdomen; indirect, with the stethoscope; and modified, which combines the direct with some additional procedure such as percussion, bubbling of air through a tube or vibration of a tuning fork. The latter

will not be discussed since it is only of academic interest since the advent of the X-ray.

Source.—The sources of the sounds which may be heard in the abdomen are the esophagus, stomach, small and large intestine, and the vascular system normally. In certain diseased conditions sounds may be heard which originate from the gall bladder and the peritoneum. There is very little transmission of sound normally;⁶ that is, sounds which may be heard with the stethoscope in the epigastrium are not heard in the right or left lower quadrant.

Esophagus.—Meltzer⁷ is said to have been the first to describe the esophageal sounds. There are two—the first, heard as the fluid passes over the epiglottis, being followed six to eight seconds later by the second, heard as the fluid passes into the stomach. This is determined by placing the bell of the stethoscope just below the xiphoid and having the patient, in the upright position, take a swallow of water.⁵

Stomach.—There are three significant types of sound emanating from the stomach. First there are the sounds of active peristalsis which originate in the main from the pylorus. This is best heard by placing the stethoscope midway between the umbilicus and the xiphoid, just to the right of the midline. The sounds are "loud, rattling, and explosive, occasionally only the recurrence of a short series of pops"^{7,2} or loud rumbling. The rumbling may often be heard at a distance even in the absence of disease. The second type of sound is the metallic tinkle which simply indicates that there are both fluid and gas present. The third type is the succussion splash which also indicates the presence of fluid and gas and is elicited by placing the bell of the stethoscope in the epigastrium to the left of the midline and making sudden dips with the hand to the left of the umbilicus. Cannon² states that the normal rate of peri-

*Read before the Tennessee State Medical Association, Jackson, April 11, 12, 13, 1939.

stalsis in the stomach is three waves per minute. This checked with rhythmic oscillations in gastric pressure which Moritz⁸ found after introducing a tube into his pylorus and with Cannon's observations with the fluoroscope.

Small Intestine.—Peristalsis is, of course, normally heard in the small intestine. The best place for auscultation of these sounds is the left lower quadrant, where there is the least chance of confusion with the sounds of other parts of the gastrointestinal tract. Cannon² describes the rhythmic segmentation of the small intestine as follows:

"There is a soft rustling of fine crepitating noises; a group of little rattling, explosive discharges; a rough, rolling rumble, like miniature thunder. It has three distinctive features: (1) The sounds usually rise slowly to an acme of intensity and gradually subside; but they may increase slowly to a maximum and suddenly cease or begin loud and gently decrease. Each may last two or three seconds or more. (2) The sound persists for some time in one place; it may be audible for a minute or many minutes, but does not move away. (3) There is a distinctive rate of six to twelve per minute, thus two to four times as frequent as the gastric peristalsis."

Monks⁹ states "in order roughly to indicate on the outside of the body the position ordinarily occupied by the upper, middle, and lower thirds of the (small) intestine, I have found that two straight lines running obliquely across the abdomen at the two ends of and at right angles with the line of the mesenteric root will divide the abdomen into three regions, each of which will contain, in most bodies, about one-third of the intestinal tube, the upper third in the first region, the middle third in the second, and the lower third in the third." Thus the upper six feet are in the left upper quadrant, partially under the ribs, the middle portion is in the middle part of the abdomen and the lower portion is in the pelvis and right lower quadrant. This is an important fact to keep in mind in any method of abdominal diagnosis where intestinal localization is necessary.

Large Intestine.—The peristaltic sound of the large intestine can with difficulty be differentiated from that of the small intestine. There is an almost constant succession of little popping noises and faint gurgling heard over the ascending colon. There is no uniform rhythm detectable over the cecum or ascending colon as there is in the stomach and small intestine. A splash may be heard normally over the cecum at times by placing the bell of the stethoscope over McBurney's point and dipping with the hand. Metallic tinkle is heard only in the presence of disease. The peristaltic sounds from the large intestine are more marked over the ascending and transverse colon than over the descending and sigmoid colon due to the greater peristaltic activity and more fluid content of the former two.

Vascular System.—Hemic murmurs may be heard over the abdominal aorta in nearly all patients who are thin enough for its pulsation to be felt. They are of no significance. The heart sounds are not normally transmitted to the abdomen.

In the above discussion an attempt has been made to outline the types of normal sounds heard from all the abdominal organs from which sounds issue. In addition to these, in the presence of disease, rarely sounds which come from the peritoneum and gall bladder may be heard. In certain pathological conditions some sounds are heard which are not heard normally, some of the normal sounds are changed in rate, pitch or intensity and some are absent. These will be described under the headings of the various abnormal conditions in which they occur.

Diseases of the Esophagus.—In partial obstruction of the esophagus⁵ the interval between the first and second sound becomes prolonged from the normal six to eight seconds to fifteen to thirty seconds and, in complete obstruction, it is entirely absent. It is delayed or absent in cardiospasm also.

Diseases of the Stomach and Duodenum.—The complications of peptic ulcer and carcinoma of the stomach are obstruction, hemorrhage and perforation. The normal emptying time of the stomach is about six hours. Hence, the elicitation of the succus-

sion splash as described above in a patient who has been without liquids for that length of time assures one that gastric retention of some degree is present. Its presence twenty-four hours after fluid intake is indicative of complete obstruction. The high-pitched metallic tinkle is confirmatory evidence. These statements apply equally as well, of course, to congenital hypertrophic pyloric stenosis or pylorospasm from any cause.

Even after profuse hemorrhage, peristaltic activity of the stomach and intestines is not abolished. This has been confirmed by observation in recent personal cases in which repeated auscultation immediately and as long as two hours after profuse hematemesis revealed rhythmic sounds.

As early as thirty minutes after perforation of an ulcer into the peritoneal cavity, the abdomen is as quiet as a graveyard. Incidentally, one should listen for at least three minutes before one declares that peristalsis is not present. This sign is of great value in differentiating perforated ulcer from intrathoracic disease in which peristalsis is normal or increased and from ruptured appendix in which peristalsis is not abolished completely until generalized peritonitis ensues.

In the presence of free fluid in the peritoneal cavity, a sign described by Claybrook¹⁰ may be found. This was originally described by him in a case of traumatic rupture of the intestine. As early as a half hour afterward the heart and respiratory sounds were transmitted all over the abdomen where they could be heard almost as well as over the chest.

Diseases of the Small and Large Intestine.

—It is in the diagnosis of diseases of the small and large intestine that auscultation is of the most value. These will be discussed together.

There is an increase in rate to ten to fifty per minute or even to a continuous gurgle in hypermotility¹¹ due to gastroenteritis from dietary indiscretion or disease and also after an enema or administration of strong purgatives. Usually the increase in rate is accompanied by an increase in intensity, making peristalsis audible perhaps

even across the room, and a decrease in pitch, a harsh, low gurgle replacing the normal rather high-pitched faint clicking sound.

In early intestinal obstruction, and in incomplete obstruction the frequency and intensity are increased markedly. James¹² states: "The stethoscope detects a characteristic metallic or tinkling resonance produced by mixture of fluid and gas in the small gut, frequently echoing as if in hollow caverns. In addition, there may be long-drawn-out gurgles and sizzling noises as if the gas were passing through narrow channels, most intense at the height of a peristaltic wave." The succession splash may be present also. Incidentally these peristaltic sounds are synchronous with the visible peristaltic wave which may be present and with the patient's cramplike pain. After the stage of gangrene has been reached, all peristaltic activity ceases and the abdomen is perfectly silent. A silent abdomen is present also in paralytic ileus postoperatively from mesenteric thrombosis or any other cause. The stethoscope is thus of value in postoperative conditions in distinguishing paralytic ileus from mechanical obstruction.

In early acute appendicitis, peristalsis is not decreased. However, there is no so-called "noisy abdomen"¹³ except after purgation or enema and this is a good point of differentiation from gastrointestinal upsets in which a very noisy abdomen may be found. It is rather surprising that peristalsis is not absent even when perforation has occurred and localized peritonitis has developed. The author has confirmed this fact at operation on numerous occasions. The abdomen is perfectly silent, of course, when the peritonitis becomes generalized. This latter fact aids in the differentiation of peritonitis from pneumonia; in both there are fever, leukocytosis and perhaps a very rigid abdomen, but peristalsis is normal or increased in pneumonia whereas in peritonitis severe enough to cause generalized rigidity, the abdomen is silent. Auscultation is of great aid also in differentiating peritonitis from mechanical obstruction¹⁴ as other clinical signs, including vomiting and distention, are similar in both.

In irreducible hernia the use of the stethoscope over the sac may give the observer information as to whether the sac contains omentum only or intestine. Furthermore, if it can be determined by other means that there is intestine in the sac, auscultation will reveal whether there is present normal peristalsis, the hyperperistalsis of obstruction or the silence of gangrene.

As mentioned above, Claybrook¹⁰ described the sign obtained in the presence of traumatic rupture of the intestine without external evidence of injury. In this case, there was transmission of the heart and respiratory sounds so that they could be heard all over the abdomen almost as well as over the chest, even without a stethoscope. He stated that it was possible for anyone to elicit this sign who had "one good ear." He considered it "when present, positive indication for immediate laparotomy, whether the other signs present indicated grave trouble or not." He found it as early as a half hour after injury and, in unoperated cases, continuing as long as twenty-four hours. He thought it due to irritation of the perietal peritoneum by sudden outpouring of foreign material such as bowel content, blood or urine. It was not found in one case of severe bowel injury; hence, he thought it unwise to consider its absence to indicate that the bowel is not injured. Rigidity had no bearing on the presence of the sound as it was found in soft abdomens as well as rigid ones. The fluid itself, he thought, was not responsible, as it was in some cases too small in amount and furthermore it does not conduct sound as well as gas or the body tissues. He found it in a case of ruptured mesentery with hemorrhage, ruptured spleen, ruptured bowel, ruptured liver, ruptured tubal pregnancy, perforated typhoid ulcer, and immediately after the rupture of an appendix. Its presence after rupture of the spleen and liver indicates that free gas is not necessary to cause the sign. This sign is of value also in differentiating perforated peptic ulcer from acute appendicitis because in the latter it does not occur until after rupture.

Aschner¹⁵, in describing this sign, stated that "the heart sounds and respiratory murmur were audible over three of the four abdominal quadrants. The heart sounds were somewhat distant and reminded one of the fetal heart sounds familiar to the obstetrician. The inspiratory murmur was audible at times with quiet respiration and at other times only when the patient was requested to breathe deeply." He emphasizes the fact that it must be present in three of the four quadrants, that it is less reliable if present in only two. It was not present in several cases of ascites examined, but, he thought, present only with sudden accumulations of fluid under tension. It was not demonstrable in a large number of patients on the surgical wards without abdominal disease. In his twenty cases of acute conditions, in eight of which the symptoms and usual physical examination did not suggest peritonitis and in only two of which shifting dullness could be demonstrated, the sign was present and operation revealed seropurulent or purulent exudation into the peritoneal cavity.

The old idea that the benefit of morphine in hemorrhage, postoperative conditions, etc., was from paralysis of the intestine has, of course, long been abolished.^{16, 17, 18, 19, 20} However, morphine does cause constipation by causing spastic tonus of the entire gastrointestinal tract by a direct muscular action. Its beneficial effects are due, in addition to depressant action on pain perception, to persistent closure of the prepyloric muscle, delaying the passage of stomach contents into the duodenum and to increased tonus and spasticity in both the small and large intestines, thus suppressing peristaltic waves. This can be confirmed clinically by auscultation of the abdomen before and after the administration of one-sixth to one-quarter grain (.01 to .015 grams) of morphine.

Diseases of the Vascular System.—The only sounds of importance surgically originating from the abdominal portion of the vascular system are the whirring murmur of an aneurysm and the machinery murmur of an arteriovenous fistula.

Peritoneum.—Friction sounds due to peritonitis are rarely recognized. Sailer⁵ states that he heard it once in a case of perisplenitis, the rub being very loud and heard best just beneath the end of the eleventh rib on the left side. He reports having heard it in another case over the liver.

Gall Bladder.—Sailer⁵ states that crepitation may be heard in a few cases of multiple stones of the gall bladder by placing the stethoscope over the gall bladder and palpating in that neighborhood with the hand.

SUMMARY

1. Auscultation is of value in the diagnosis of certain diseases of the esophagus, stomach and duodenum and the large and small intestine.

2. The absence of the second sound in the esophagus indicates obstruction.

3. The presence of the succussion splash and metallic tinkle over the stomach six or more hours after fluid intake indicates gastric retention. The abdomen is perfectly silent within thirty minutes after perforation of a peptic ulcer.

4. The most important auscultatory signs in the diagnosis of diseases of the small and large intestine are sounds of hyperperistalsis in early obstruction and in incomplete obstruction; the complete absence of peristalsis in generalized peritonitis, gangrene of the intestine, and paralytic ileus from any cause; and Claybrook's sign of transmission of the heart and respiratory sounds to the abdomen in cases of sudden accumulation of fluid under tension in the abdominal cavity.

CONCLUSIONS

1. In this discussion no attempt has been made to bring out any new facts or observations, but merely by summarizing and quoting freely from the rather sporadic articles in the literature to bring a helpful procedure to the attention of the profession.

2. In order for one to derive any benefit from auscultation of the abdomen it is necessary to realize that, like all specialized diagnostic procedures, it requires study and repeated application. The results, in general, are not as definite as those obtained

in auscultation of the chest, but are unquestionably of value.

3. Finally it is suggested that, in the abdomen as in the thorax, inspection, palpation, and percussion be followed routinely by auscultation.

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DISCUSSION

DR. J. L. McGEHEE (Memphis): Mr. President and Gentlemen: In this day and time of scientific medicine, with the almost daily introduction of new methods, new instruments of precision and new techniques, ballyhooed by their promoters as better than anything else that had ever gone before, it is quite refreshing to listen to a paper by a young man calling our attention to the value of an old bedside clinical method, which requires for its successful application one of our common senses—hearing—by which the information so gained, interpreted in terms of physiology, leads to valuable deductions and rational conclusions. The method, unusual to relate, does not require an elaborate, expensive equipment, neither does it require the almost ever-present assistance of that product of modern medicine, the female laboratory technician. It only requires a good doctor with one good ear.

Dr. McSwain's paper is timely, because it calls to our attention the importance of not forgetting, in this glamorous, spectacular age of medicine, the fundamentals. It calls to our attention the practical value of using our common senses, of cultivating and using our powers of observation, of seeing with our eyes, of feeling with our hands, of smelling with our noses, and of hearing with our ears.

The neglect of three faculties is one of the evils of modern medical education. They have been almost relegated to the limbo of forgotten things by the enthusiasm of modern medicine with its scientific methods.

There is no more pathetic sight to behold than the young medical man, the product of an ultra-scientific medical school, at the bedside of a seriously sick patient, alone, without the aid of a biochemist, a roentgenologist, a serologist, an electrocardiologist, one of the numerous types of consulting specialists, without the registered nurse and the laboratory technician, etc., alone, having for the first

time to depend on his mother wit. At the bedside of this patient he is entirely out of his element and, like a fish out of water, he flounders miserably.

Now I would not for one moment decry the value of scientific and exact methods, but I do decry their magnification and exaggeration to that ridiculous degree of importance that results in excluding clinical methods, founded on observation and common sense from the ken of modern medical students.

Too much attention to mice and too little attention to men has been the ruination of many embryo physicians.

So I say this paper has a deeper significance than just pointing out to us the information to be gained by auscultating the suspected abdomen. It calls our attention to a tendency to forget the fundamentals in our enthusiasm over that which is new, novel, and smacketh of the scientific.

It is well to remember that it is much better and more profitable to be able to interpret the symptoms of disease in terms of living pathology than to be able to determine the pH of the urine—that it is likewise better to be able to interpret the clinical signs of acute appendicitis than to be able to recognize a Schilling's shift to the left. Also it is well to remember that the foetal heart sounds and movements are at least of equal value to the Aschheim-Zondek test. Again, metallic tinkle is of much more diagnostic value than a roentgenologist's report of a "herring-bone pattern" in a case of suspected intestinal obstruction.

Dr. McSwain has given us a classical paper, pointing out the value of auscultation in the diagnosis of surgical diseases of the abdomen, to which I can add nothing, and at the same time he has called our attention to the importance of holding fast to that which is old, tried and true. He has emphasized the importance of clinical observation, logical thinking, physiological interpretation of physical signs which, in these modern times, seems to be rapidly becoming a lost art.

DR. BARTON McSWAIN (closing): Mr. Chairman, I just want to thank Dr. McGehee for his discussion.

Let me remind you again that after you have learned all you can about the abdomen, I believe you will learn a little more if you will take out your stethoscope and listen.

CARCINOMA OF THE STOMACH—AN ANALYTICAL STUDY*

WILLIAM E. BRYAN, M.D., Chattanooga

IN THE UNITED STATES some 120,000 people died of cancer last year. This number is steadily increasing. From one-fourth to one-third of these deaths are caused by cancer of the stomach. In one-third of the cases of cancer in men the lesion is in the stomach. In women one-fifth of cancer is in the stomach.

According to Balfour¹ cancer in no region of the body is more responsive to early treatment than that of the stomach. Of his cases operated on while the lesion was still confined to the wall of the stomach fifty per cent were alive and well five years later. Walters² (Mayo) stated that forty to fifty per cent of his cases operated on when the glands were not involved were alive and well after five years. With glandular involvement, and no other metastasis, the percentage was about eighteen. Allen³ (Massachusetts General Hospital) reports thirty per cent of cases living five years after partial gastrectomy. His operative mortality was thirty-three per cent. These percentages are more encouraging, I am sure, than those of the country in general. But at least surgery done early has much to offer.

Why, then, is the mortality rate so high? The answer is that so few reach the only means of cure in the operable stage. The Mayo Clinic reports state that only twenty to twenty-five per cent of their cases are operable. Other reports give their operable cases as low as five per cent. (Foss, Danville, Pennsylvania.) The series reported by me had thirteen per cent which were considered operable.

We are told that ninety to ninety-five per cent of early operable cancers of the stomach can be demonstrated on X-ray films. It is evident that if we clinicians had our stomach cancer cases X-rayed in their early stages and operated on, a very great number of lives could be saved. This is

not the arraignment of clinicians that it might seem. It appears that people take digestive disturbances for granted and endure at length before seeking medical advice. Here is another educational responsibility for us. The organization which fosters "cancer week" furnishes us opportunities of speaking to groups and gives us the use of the radio for stressing just such points.

The early symptoms of gastric carcinoma found in my small series correspond with other reports. The most common symptoms noted were epigastric distress, mild or severe, usually of a burning nature occurring most often after meals, eructation of gas, loss of appetite, vomiting, loss of weight, strength, and pallor. These are common experiences for many people. They are present as reflexes with many diseases in other parts of the body or with emotional upsets. I am urging you not to be too easily satisfied as to explanation, especially in those past middle life. If these tend to grow worse, or persist for two weeks, by all means have your further studies made. The caution is here made that often there is temporary relief of symptoms when ulcer regime is established. I would like also to spare you the embarrassment of sending an elderly gentleman to Florida to recover from his weakness, loss of weight, pallor and digestive disturbances and either have him to return to you a few months later with an advanced cancer of the stomach, or have a severe hemorrhage while away.

The carcinoma of the stomach which can be diagnosed by clinical signs and symptoms is already past the stage when operation will be other than palliative. The textbook picture of cachexia, hemorrhage, palpable tumors, and signs of obstruction would well be forgotten in so far as benefit other than palliative to patient is concerned. In both early and late manifestation the location of the new growth determines the type of

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signs and symptoms. If near the pylorus signs of obstruction appear reasonably early. When farther away from the pylorus, hemorrhage is more likely to occur. There is earlier gland involvement from those lesions near the pylorus.

The problem of getting more of these unfortunates in touch with their only hope of escape lies in the main with the family physician. The first point with this group of medical men is to be cancer-minded. Such obscure lesions can never be suspected unless one is looking for them. To wait until the thing literally hits us in the eye is not good practice and the patient pays dearly for our lack of acuteness. As I have been interested in this subject for some time I recently studied the case histories of the patients admitted to the Baroness Erlanger Hospital, Chattanooga, for the past three years. The series included twenty-three cases of carcinoma of the stomach. This series represent one case of carcinoma of the stomach to 950 admissions to the hospital for that period, and sixteen per cent of all malignancies. Sixty per cent of these cases were white men. There was only one negro in the series. (The ratio of negro to white admission is one to three.) One of these was thirty-eight, another forty years of age, and the remainder were above forty-five. The average for the group was fifty-eight and one-fourth years. Eighteen or seventy-eight per cent were service cases. Digestive symptoms had been present from six weeks to ten years, the average duration of symptoms being three and one-half years. Of the twenty-three cases only three or thirteen per cent were considered operable. The remaining twenty cases had metastasis to the liver, severe grade of pyloric obstruction, or severe hemorrhage which took their lives a few days after entering the hospital.

The above picture is indeed gloomy. Of twenty-three cases of carcinoma of the stomach admitted to the hospital only three had the remotest chance of living longer than a few weeks. However, I feel that something helpful can be done about the situation. Upon the family physician rests a large part of the responsibility as he contacts these victims earliest. If he keeps in

mind a few facts he will be instrumental in saving a few of these lives. First: Any persistent digestive disturbance coming on after middle life is very likely to be cancer of the stomach. Second: An increase in intensity of gastrointestinal symptoms so long standing in an elderly person is likely to be cancer of the stomach, especially if pallor is present. Third: Early carcinoma of the stomach can be diagnosed by X-ray in ninety to ninety-five per cent of the cases. Fourth: Twenty to fifty per cent of early carcinoma of the stomach can be cured by operation.

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DISCUSSION

DR. R. L. SANDERS (Memphis): Dr. Bryan has pictured a rather hopeless outlook from the treatment of carcinoma of the stomach, and I confess that I am more than ever discouraged. The situation is especially pitiable among patients seen in our charity hospitals, as shown by the records of cases in the John Gaston Hospital in Memphis, which I shall review, and in the Charity Hospital in Nashville, which the next speaker will discuss.

I have studied 157 cases of cancer of the stomach in the John Gaston Hospital, representing the total number of patients admitted with the disease over a period of ten years, from 1928 to 1938. All were from the lower classes of society. Of that number, 109 were males and forty-eight were females; fifty-five were white and 102 black. These figures differ materially from those shown by Dr. Bryan, which may be explained by the fact that far more colored patients than white are treated in the John Gaston Hospital.

TABLE I
CARCINOMA OF THE STOMACH OVER A PERIOD OF
TEN YEARS, 1928 TO 1938, JOHN GASTON
HOSPITAL, MEMPHIS

Number of patients	157
Male	109
Female	48
White	55
Black	102
Explorable—(32)	20.4%
Operation—	
Exploration	11
Gastroenterostomy	19
Resection	2
Operative mortality	50%
Known mortality of entire group—(65)	41.4%

Of the 157, only thirty-two, or 20.4 per cent, were explorable. Operation was confined merely to exploration in eleven, and a palliative gastroenterostomy was performed in nineteen, no effort being

made to remove the growth. The stomach was resected in two. It is both startling and distressing that of a total of 157 patients with a major disease, only two, or approximately 1.5 per cent, could be offered any prospect of cure. This is an impressive example of the danger of delay. Many of these patients had never seen a doctor, and came to the hospital only after symptoms had become severe. The operative mortality of the thirty-two explored was fifty per cent, for obvious reasons, and of the entire number, sixty-five, or 41.4 per cent, are known to have succumbed from the disease. There is no doubt that the actual mortality is far higher.

In contrast to the situation encountered in the charity hospital, I shall present our experience with a group of private patients, all of whom came from a high social stratum. During the past few years we have observed in private practice sixteen patients with cancer of the stomach. Five were males and eleven females, which is a sex incidence in reverse ratio to that of patients seen in the John Gaston Hospital.

TABLE II

PRIVATE CASES OF CARCINOMA OF THE STOMACH

Number of patients (all white)-----	16
Males -----	5
Females -----	11
Explorable—(14) -----	87.5%
Operation—	
Exploration -----	6
Gastroenterostomy -----	2
Resection -----	6
Operative mortality—(2) -----	12.5%
Average life postoperatively-----	13 mos.
Patients living and well after five years---	2

Fourteen of the sixteen, or 87.5 per cent, were explorable, as compared to 20.4 per cent of the charity patients. Exploration alone was performed in six, gastroenterostomy in two, and resection in six. Two, or 12.5 per cent, succumbed during the postoperative hospitalization. The average postoperative survival period of the fourteen was thirteen months, and only two are living after five years. Despite the contrast in the figures of the charity and private cases, there is little encouragement in the fact that of sixteen private patients observed and fourteen operated upon, only two lived five years.

We cannot expect any improvement in these results until patients learn the advantage of early diagnosis. A progressive decline, as manifested by loss of appetite, vitality, weight and strength, and constantly recurring distress in the stomach which is unrelieved by medical agents, should lead one immediately to suspect cancer of the stomach. As Dr. Bryan has pointed out, the diagnosis may be confirmed by the roentgenogram in ninety-five per cent of cases. I should like to repeat his statement that if resection is carried out while the disease is still limited to the stomach wall or the neighboring glands, a fairly large number of patients, i.e., twenty-two or twenty-three per cent, will live five

years or more. I might add that the size of the lesion is not necessarily an indication of its resectability; many of the larger growths metastasize slowly. When the cancer goes beyond the stomach wall, however, the prognosis is unfavorable.

I wish to thank Dr. Bryan for bringing us his experiences with carcinoma of the stomach. The disease is certainly one of our gravest problems. Nearly all patients so affected seek treatment too late; the operative mortality is then exceedingly high and ten or twelve months of life is the most we can offer.

DR. E. L. RIPPY (Nashville): I have enjoyed Dr. Bryan's paper very much, and I think he has brought to our attention a subject about which too little is being written.

Recently I made an analytical study of all the American literature on cancer of the stomach for a five-year period, and found that ninety per cent of the articles were being written by the men in the large medical centers, although they were observing only ten per cent of the total cases, leaving the other cases scattered over the rest of the United States, about which there was little or nothing being written. Therefore, in our journals we do not have a composite picture and if we read the articles from the Mayo and similar clinics we are optimistic, but if we accept the average over the country (which is three per cent five-year cure) we are pessimistic.

Cancer of the stomach might appropriately be called the Hitler of diseases, since it annually kills thirty-eight thousand and has resisted all efforts to be blocked successfully by the combined defenses of the laity, clinician, roentgenologist, and the surgeon. This lack of progress is due to the difficulty of diagnosing the lesion in its early stage when it is a local disease and curable by surgery.

Why then cannot the diagnosis be made early? It is probably due to one of the following reasons:

1. The insidious nature of the onset in some cases, allowing the lesion to be well advanced before the appearance of any symptoms or physical findings.

2. The patient does not seek medical aid, although he may be having considerable gastric distress.

3. The symptomatic treatment of elderly patients with gastric distress without complete investigation, including X-ray.

4. The pessimistic attitude of many doctors relative to the curability of cancer of the stomach.

5. Lack of appreciation of the fact that lesions in certain regions of the stomach are potentially, if not already, malignant.

I wish to present briefly some statistics from a review of 200 cases of cancer of the stomach over a ten-year period in Nashville. In this series 111 cases, or 55.5 per cent, were explored with thirty-six deaths, or 32.4 per cent mortality. To further analyze these figures, there were thirty-six gastro-

enterostomies with twelve deaths, 33.3 per cent mortality. Thirty-six explorations only with eleven deaths, or 28.25 per cent mortality. Gastrostomy and enterostomy, six cases with three deaths, or fifty per cent mortality. Thirty-three resections with ten deaths, or a mortality of 30.3 per cent.

Since these cases were so far advanced the end results were poor. In a preliminary report of the end results of this series 165 cases have been followed. Of this number 160 were dead, leaving only five alive at the present time, and all of these were resected.

DR. JOHN B. HASKINS (Chattanooga): Mr. Chairman, this is a very live subject, and it occurred to me while Dr. Bryan was reading his paper that if the Cancer Commission would emphasize in our lay journals more the chronic conditions leading up to cancer of the stomach it would be a mighty fine thing, and it would help the profession to get the cases early.

I have had about ten cases and the best result I had was a six-year cure, and that patient came back with an inoperable carcinoma of the rectum. The rest of my cases died much earlier.

I had two cases last fall. One of them was adherent to the pancreas and I got a pancreatic fistula, and there isn't anything worse in surgery than when you get into the pancreatic secretion. The other case lived a month, developed pneumonia, and died, although he never did get a complete healing of his wound.

It is a live subject and Dr. Bryan should be commended for bringing it before us. We should use all the legitimate propaganda we can to get these cases early. I think through our lay journals would be a mighty good way to get behind these things.

DR. W. E. BRYAN (closing): Mr. President, I want to thank Dr. Sanders, Dr. Rippey, and Dr. Haskins for the interesting things they have told us in their discussions.

We would like to dispel from your minds any feeling of abandon in this matter. You can look back over your lives and see there were many conditions in which we were inclined to feel there was nothing particularly we could do about them. I believe when this subject is brought up on this floor ten years from now the story will be an entirely different one.

ENDEMIC GOITER*

LEE K. GIBSON, M.D., Johnson City

WHILE THYROID surgery is still done by a comparatively small group of surgeons, this group is steadily growing; also the various pathological states of this none-too-well-understood gland often play a part in every doctor's practice to such an extent that possibly I may be pardoned for reading this paper before your society.

In certain geographical areas where enlargement of the thyroid gland occurs more or less constantly in a relatively high percentage of the population, these glandular enlargements are referred to as endemic goiters. The cause of the great number of goiters of this nature is now generally accepted as being due to an iodine deficiency. Many other probable causes have been suggested, varying from the eating of cabbage to climatic conditions, yet practically all authors agree that iodine want is the primary etiological factor. Just what causes some individuals living in these areas, and not other living under identical circumstances, to show this type of goiter is not so well understood, although emotional strain and certain physiological processes unquestionably play a part. We see this type of goiter in all walks of life, and at all ages, and while our statistics on this are not complete, it occurs to us that more cases are observed in people whose living conditions are slightly below the average. This may be explained, of course, by their rather simple, limited diet, consisting chiefly of food raised in the immediate locality, or another explanation might be offered—that the slightly underprivileged groups of individuals are greatly in the majority. Whole families of mountain dwellers have been observed to have goiters. It is not infrequent to see a rather prominent thyroid at birth. There is a noted prevalence in women. Dr. Crile offers an explanation for this in that “the

biological demand is greater on the thyroid of the female.” This no doubt is true.

Endemic goiter is said to be a preventable disease. This is probably true only to a degree. The systematic administration of iodine in goitrous districts has been repeatedly shown to decrease the instance of goiter, yet in spite of this knowledge endemic goiter continues to flourish in many states in our Union. To our knowledge no organized effort along these lines has been put into effect in East Tennessee. We have conducted some experiments on school children in the primary grades with gratifying results following the administration of small doses of iodine in the form of a chocolate-coated tablet containing sodium iodide. The use of iodized salt, which is on the market, has failed to show any appreciable influence. Recently Dr. George Curtis of Columbus, Ohio, has advocated feeding dairy herds food rich in iodine, and potassium iodide, and in this way bringing about an increased iodine content in the milk. This seems to have far-reaching possibilities and deserves a trial in our own state. Surely if this type of goiter is due largely to iodine deficiency alone, then a more concerted effort should be made by the state and federal health authorities so that the succeeding generations should be spared this malady.

Prophylaxis and hope for improvement from medicine ends with maturity. I mean by this that the vast majority of endemic goiters fail to make a satisfactory response to any type of therapy other than surgical after maturity; of course there are sporadic cases that may show more or less complete involution, temporarily at least, following many varied and peculiar methods of therapy, but these are more than offset by the harm done to quiescent goiters by the too frequent use of iodine in adults. Occasionally an endemic goiter, free from nodules, may spontaneously, for no apparent reason, undergo almost a complete involution. No small number of thyrocar-

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diacs give a history of having had their goiters cured many years previously by the use of iodine in one form or another. Most of our imminent authorities on the care of the thyroid agree that the adult thyroid is a surgical problem. Unquestionably the therapeutic value of iodine in the treatment of adult goiters is not any too well understood either by the laity or those of the profession not especially interested in thyroids. Our series of thyroid cases over a period of fifteen years, while not so large in number as those listed in the larger clinics, have afforded us sufficient material for interesting study. In arriving at our deductions we have tried to correlate our own experience with the opinions of others. We admit that thyroid disease can and often does occur concomitant with other systemic conditions entirely independent of the goiter, which are not materially influenced by the treatment of the thyroid; that is, all pathological states of the body cannot reasonably be expected to be helped by treatment directed to this one gland. We recognize this and frankly advise the patient accordingly.

The most desperate cases coming under our observation have not been the classical smooth diffuse goiters with their dramatic start and fulminating course, but, on the contrary, the insidious toxic case in the older individual, whose precarious state has come on so gradually that the condition which causes him to seek relief is very often attributed to almost everything other than the swelling in his neck which has been there twenty or thirty years. Yes, he has been aware that he had a goiter, but he has also been told, often after a none-too-careful examination, that it was not bothering him and to leave it alone. Some have even had a basal metabolism test made which showed no alarming increase, so they are quite sure that their racing heart, with its frequent irregularity, their loss of weight, and the unbearable nervousness, is not the result of that lump in their neck. Maybe the thyroid is not the activating cause of their hyperthyroid state after all, but without that lump in their neck they would not be in their present undesirable

state, and about the only way any permanent improvement can be hoped for is by its partial extirpation, or, I will say, the form of treatment best suited to relieve this unhappy condition is the surgical removal of the greater part, if not all, of their thyroid gland. Frequently the preparation for surgical treatment of this type of case is tedious and difficult. At least, their response to preoperative treatment is less marked than it is in the diffuse toxic type of hyperthyroidism. Here we have to deal with an individual whose age alone is against him. Often there is a decompensated heart, which is restored with great difficulty, if at all. The nervous, vascular, and urinary systems often present appreciable derangement. The surgical mortality rate of these individuals is higher and occasionally it is impossible by any form of treatment to restore these patients to a safe level at which they may be operated upon. In a few instances where prolonged rest and appropriate measures have failed to make these individuals safe for operation we have resorted to X-ray therapy as a second choice.

Most endemic goiters are called simple goiters, especially up to the third or fourth decade, and this is just what they are not, even though to all outward appearances they are smooth and apparently filled with colloid and lack evidence of hyperplasia, or even nodulations, yet how few of these which are carefully followed remain so. Because they do not cause an increase in the basal metabolic rate, and the accompanying symptoms of hyperthyroidism, they are passed up lightly as simple or colloid goiters. And later, when nodules make their appearance or become easily observed in various parts of the gland, accompanied by cystic degenerative changes and massive enlargement, not always growing outward, but occasionally growing downward, they are referred to as nodular nontoxic goiters, and again passed up lightly. The basal metabolic rate is still not high, occasionally may be below normal, and based on this criterion alone the goiters are still considered harmless. Then, for reasons unknown, in a high percentage of these glands certain

areas begin to show an increase in cellular activity, and simultaneously in other areas degenerative changes occur, hemorrhagic and otherwise, and the simple lump in the neck which has been there for twenty or more years, labeled a simple endemic goiter and not to be bothered, becomes a menace, often, as I have said before, in a very insidious manner, though occasionally the change with toxic manifestations may be fairly acute. Once this has occurred the possibilities are great. It is in this type of goiter that, in addition to the injury to the nervous system, the greatest damage is done to the cardiovascular system. I shall not, however, attempt at this time to enter into a discussion of the possibility of different types of hyperthyroidism, but the point which I would like to make is that a goiter, which in the second and third decade of life is apparently harmless, is in reality fraught with such potentialities that it deserves a more comprehensive name than simply goiter. Pretoxic, it seems to me, would be a fairer term for all nontoxic goiters, granted even that a large number never become toxic, if toxicity is measured alone on the basis of a basal metabolism test.

There seems to be some difference of opinion as to when an endemic goiter may be classified as toxic. Formerly it was held that cellular hyperplasia had to be present, and failing to find this the pathologists were prone to report the gland as nontoxic. However, of late the degenerative changes in the gland, as well as the changes in the colloid staining qualities, are considered as definite pathological evidence of toxicity. The latter changes are probably responsible for the so-called thyrocardiac. Clinical diagnosis and pathological reports are frequently contradictory. The basal metabolism test and the estimation of the blood cholesterol cannot be accepted as the last word. We believe a carefully taken history and physical examination in these thyroid conditions, just as in other pathological conditions of the body, are our best means of arriving at a correct interpretation, always taking the laboratory tests into consideration, but not being governed by them.

Despite the immense volume of literature on hyperthyroidism, most of us are still far from perfection in our diagnosis of these cases. Many of our mistakes are due simply to carelessness and hurry; others to what might be called a lack of thyroid consciousness, and still other errors can be attributed to lack of information or to confusion in the picture presented. Unlike most other diseases, hyperthyroidism does not cause local symptoms, or at least whatever local symptoms it does produce are obscure and frequently overlooked and do not constitute an important part in the picture of hyperthyroidism. A duodenal ulcer, for instance, calls immediate attention to itself or to the upper part of the digestive system. Infections and tumors of the brain give immediate evidence and symptoms which call our attention to the cranium. Likewise, appendicitis and gall bladder disease present a localized picture concerned with a particular area of the abdomen. It is not so with hyperthyroidism, for the enlargement of the gland may not, and frequently does not, attract the attention of the host; moreover the enlargement of the gland frequently makes no discernible difference in the conformity of the neck, and there is no pain or soreness. To make further pit-falls in the diagnosis the disease of hyperthyroidism chiefly affects the autonomic nervous system, and many of its symptoms are manifestations of an overstimulated nervous system.

There are, however, other disorders which manifest themselves by similar symptoms, and which in their symptomatology bear more than casual resemblance to hyperthyroidism. Hyperthyroidism is frequently confused with one class of nervous disorder, namely, psychoneurosis based on fear, and while there is a distinct difference between the two clinical pictures, still this confusion is most common. It is just as bad to blame psychoneurosis on a small and innocent thyroid as it is to treat a full blown and obvious case of hyperthyroidism as a psychoneurotic. The only remedy for such mistakes is a clear understanding of hyperthyroidism and a clear conception of the psychoneurosis, plus a willingness to take

a careful history and make a thorough clinical study. When this is done the difference between the two conditions becomes clearer and mistakes are less likely to occur.

The emotionally unstable person, the hypersensitive individual who shows part of the symptoms of hyperthyroidism, plus an enlargement of the thyroid, no doubt taxes our resources most. However, a careful analysis is made of these cases, noting especially that marked heat intolerance and marked tolerance for cold are usually present in the hyperthyroid or toxic goiter, and are seldom noted in the psychoneurotic. Pressure symptoms are more often observed in the psychoneurotic than in the toxic goiter. Hoarseness is rarely encountered in nonmalignant goiters, and when noted malignancy should be thought of. It has been observed in most of the surgical clinics in America that approximately four per cent of these endemic goiters become malignant, a fact that must not be dealt with lightly.

While the normal thyroid adds to the beauty and curvature of the neck, there is nothing that detracts more from its beauty than an unusually large goiter. Frequently it does not hurt the patient, but mars the symmetry of the neck.

It is our opinion that all adult goiters are surgical problems, and we agree with Dr Means, who says, "patients with large goiters should always be told that it is at least possible to be rid of them at the hands of a good surgeon with very little risk." Most of the adults we see with large goiters have advanced beyond a colloid state, and careful examination reveals definite nodules, adenomatous or cystic. Frequently the basal metabolic rate increase is not in proportion to the cardiovascular changes observed. The blood cholesterol estimations have not materially helped us.

In conclusion, it is our belief that the benefits derived from prophylaxis end with maturity, and that a goiter which persists into the third decade of life should be dealt with surgically, and that adenomas of the thyroid should be looked upon as neoplasms as elsewhere in the body. Patients that have no demonstrable evidence of toxicity or cardiovascular disease should at least be

acquainted with the potentialities and be cautioned that their glands may not always remain harmless, and they should be further admonished not to resort to the promiscuous taking of iodine. It is our opinion that Lugol's solution is a very valuable adjunct to the surgeon and should be left to him, and should not be administered as a cure-all, thus depriving the surgeon of its value. We wish to emphasize that the psychoneurotic and the neurosthenic respond no better to surgery of the thyroid than they do to surgery in any other part of the body. We feel that all goiters in the adult are potentially dangerous, and that the patients would be better off without them. Especially is this true with nodular goiters. The least that we can advise them is to have semiannual examinations. While the removal of the thyroid gland is somewhat technically difficult, we have as yet had no fatalities. We have had a few unilateral cord injuries which caused our patients very little inconvenience. There have been no cases of myxedema in our series. The percentage of recurrence has not been high.

While diffuse toxic goiters are usually promptly referred for surgical treatment, we are convinced that endemic goiters are too frequently treated medically.

DISCUSSION

DR. J. A. REYNOLDS (Chattanooga): The subject of goiter as given by Dr. Gibson's paper covers such a big field that one cannot discuss all of the points in it. I want to take up just a few.

The important thing that makes goiter difficult to comprehend is that the literature is so voluminous and the classifications are so varied that simplicity is overlooked. The Committee on Classification for the American Study of Goiter has given four types. They are: (1) nontoxic diffuse goiter; (2) toxic diffuse goiter; (3) nontoxic nodular goiter; and (4) toxic nodular goiter. Those four types cover the field of goiter. However, there will be a few subheads. Plummer gives nine: (1) diffuse colloid goiter; (2) adenomatous goiter with hyperthyroidism; (3) adenomatous goiter without hyperthyroidism; (4) exophthalmic goiter; (5) malignant disease of the thyroid; (6) thyroiditis; (7) myxedema in the adult; (8) childhood myxedema; and (9) cretinism.

Dr. Gibson's paper has to do with nontoxic diffuse goiter as given by the Committee on Classification for the American Study of Goiter, or, in Plummer's classification, diffuse colloid goiter.

Endemic goiter is limited to each of those divisions; hyperthyroidism is something that is added to the diffuse colloid goiter or the nontoxic diffuse colloid goiter.

Goiter is a particular specialty in itself and it takes a lot of experience in order to classify it. Goiter will have a definite change of symptoms, particularly hyperthyroidism. Of course, individuals will vary a little bit, but in the groups each individual will be pretty much the same. It has been said that goiter is due to deficiency of iodine, but the etiology of goiter is not exactly sure. There seem to be other things that cause goiter and that the deficiency of iodine is only one of them.

The United States Geological Survey, in studying the waters in the various goiter belts, has found that there is an excess of calcium along with, in some places, a deficiency of iodine; in other belts an increase of iodine. Dr. J. E. Klein, in Chicago, has done a considerable amount of experimental work with calcium, the feeding or the injection of iodine along with very strict diets, no calcium or no iodine, or else a combination of these two. He feels very strongly that calcium has a great lot to do with hyperthyroidism and with endemic goiter.

In the dairy districts over the world, such as in Holland, which is a coastal area, the water has a high calcium content. There is also a high iodine content, and there one finds colloid goiter. In the mountainous regions one finds a low iodine, a high calcium, and hypoplastic goiter. The various little changes that occur in these people with the vegetative nervous system, whether or not it is stimulated or to the certain amount it may be stimulated, makes possible the various classifications of goiter, whether it is nodular, whether it is nodular with a little bit of hyperthyroidism, and so forth. Hyperthyroidism is a surgical problem. Endemic goiter is chiefly a medical problem.

In the colloid goiter that he speaks of in endemic goiter, there is the place to give iodine in children, but there has to be a dividing line. Around twenty-five years is the place to stop, because otherwise one gets into the realm of hyperthyroidism due to calcium or iodine deficiencies or increases. With any goiter that is nodular and the patient is around twenty-five years old, that patient should be advised to have it removed because of the possibility of malignancy. One cannot tell clinically

when a thyroid is malignant. If one waits for the clinical signs and symptoms of malignancy, he has lost the best chance for his patient's recovery by operation.

DR. L. S. SANDERS (Memphis): I want to discuss one phase of the goiter problem as related to the early diffuse enlargement of the thyroid gland. Clinical experience has shown that nodular goiter of adult life is the result of a previously diseased gland in early life.

Untreated diffuse may disappear after a few years, but usually after ten to twenty years one or more nodules form in the gland, and the result is the nodular goiter. A large percentage of these nodular goiters become toxic. The toxemia is gradual in its manifestation and may be so insidious that the heart becomes damaged before the true nature of the disease is discovered. The symptoms of a nodular goiter are increased systolic blood pressure with a normal or low diastolic pressure, shortness of breath, loss of weight, and nervousness. One must be careful to distinguish between the condition of toxic nodular goiter and a benign hypertension.

We have seen a great many of these patients who in early life had an enlarged thyroid, and who at, or near, the sixth decade of life developed a hypertension and a failing heart. Examination of such patients revealed a nodule in the thyroid gland and definite evidence of a toxic goiter. Last week I saw a lady seventy years of age who had been treated for hypertension for twelve years and a failing heart for three years. She was in the last stage of cardiac degeneration. Her blood pressure was 210/60 and she had a nodular goiter. The goiter had not been recognized as the cause of her hypertension and myocardial insufficiency.

I want to call your attention to the frequency of hypertension occurring as the result of nodular goiter, and to stress the necessity for recognition of the thyroid toxic state before the heart becomes permanently damaged. If the toxic goiter is removed early the heart will be protected and many elderly people will be saved a cardiac death.

Finally, if endemic goiter is discovered early and treated by iodine or thyroid extract, disease in the form of nodular goiter later in life may often be prevented.

THE JOURNAL

OF THE

TENNESSEE STATE MEDICAL ASSOCIATION

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H. H. SHOULDERS, M.D., Editor and Secretary

NOVEMBER, 1939

THE ISSUE

SHALL PATIENTS AND DOCTORS RETAIN THEIR FREEDOM OF JUDGMENT IN THE MATTER OF MEDICAL CARE, OR SHALL THIS FREEDOM BE SURRENDERED TO SOME GOVERNMENTAL AGENCY?

EDITORIAL

DID SOMEONE FALL DOWN ON THE JOB?

Typhus fever is occurring in several Southern states with sufficient frequency to create very definite concern. It calls for action and, in our opinion, calls for some inquiry as to how it has happened.

The following figures supplied from reliable sources give some idea of the increasing frequency of the disease in the last four years. In Tennessee there were:

0 cases in	1934
8 cases in	1935
6 cases in	1936
21 cases in	1937
24 cases in	1938

For 1939 the figures for the state, as a whole, are not available, but the city of Nashville alone has had forty-four cases to October 31.

The State of Alabama had:

72 cases in	1929
67 cases in	1930
80 cases in	1931
238 cases in	1932

823 cases in	1933
287 cases in	1934
294 cases in	1935
369 cases in	1936
478 cases in	1937
342 cases in	1938

The State of Georgia had:

414 cases in	1934
485 cases in	1935
814 cases in	1936
1,012 cases in	1937
908 cases in	1938

A much smaller number of cases of the disease occurred in Florida, Louisiana, Mississippi, North Carolina, and South Carolina. In all of these states there was a marked increase in the number of cases in the years since 1935 as compared with the years prior to 1935. Figures for this group up to date are not available.

It suffices to say that there has been a marked increase in the incidence of this preventable disease since 1935.

In Nashville, a majority of the cases have occurred in and adjacent to mills which handle corn. It is further brought out that corn has been imported from Argentina and shipped to these mills in the last few years.

It is common knowledge that rats are prone to accompany these shipments of grain. If they happen to be infected rats, they, of course, spread the disease in the rat population and the fleas in turn spread the disease to humans.

It is worth while to set up another group of facts. Many years ago the United States Public Health Service was created and charged with the duty of protecting the people of this country against such an invasion. One of the functions of this department is to make inspections and to enforce measures calculated to protect this country against the emigration of disease. This department of the federal government has given to this country many years of distinguished service. Up to a few years ago the policies of the department were directed solely toward the accomplishment of the purposes for which it was created. Rarely, if ever, did one hear of a member of this service engaged in any activity not directly related to the performance of the functions

for which the department was created. The personnel of the department enjoyed the esteem, confidence and respect of the medical profession of this country. In recent years it appears that a radical change of policy has come about. It was foreseen and predicted.

In 1936, a Mr. James Rorty, in an article which appeared in the *Forum and Century Magazine*, said, among other things, the following: "Today, with Thomas Par-ran, Jr., as surgeon general and Josephine Roche as the Treasury Department's secretary for health, we may confidently expect continued pressure both from within and without the government toward the reorganization of the health services."

In this article the author was not speaking of preventive services alone. He had reference to the reorganization of services pertaining to medical care.

Miss Josephine Roche made an address before the American Public Health Association, New York City, on October 5, 1937, on the subject of "Medical Care as a Public Health Function." In that address she said, among other things: "With the traditional task of public health far from completed, with so much yet to be done throughout the country in 'leveling up' those preventive services long accepted as a definition of public health functions, it is quite understandable that the first reaction of public health workers to a function directly concerned with individual care should be one of hesitancy. 'Better do our familiar and long-accepted task well and not get into new controversial fields' is the way I have heard this first reaction expressed.

"Rarely, however, have I heard this position maintained after a full and open-minded examination of today's facts and conditions which clearly and overwhelmingly reveal that medical care as a public health function is not so much a new function which public health must take on as an extension of the function and services which public health leaders and workers have long claimed as their own and given their lives to advancing."

When this address was delivered Miss Roche was Third Assistant of the Treasury

with power over the United States Public Health Service.

These statements, together with subsequent developments, with which we are all familiar, seem to indicate that Mr. Rorty knew what he was talking about when he predicted a change in the policies of the United States Public Health Service.

Certainly a large amount of the time and energy of several persons connected with the United States Public Health Service have been devoted to work which has no direct bearing whatever upon the prevention of disease.

In the face of all these facts this question naturally arises: Did a radical change in the policies of the United States Public Health Service have any bearing upon the increasing incidence of typhus fever?

Certainly, typhus fever is preventable. The prevention of disease is a public health function. The prevention of this disease requires the use of executive force.

Individual citizens cannot protect themselves against such an invasion, neither can individual doctors. This is the reason for the creation of public health authorities endowed with the powers necessary to accomplish this public protection.

From the statistical evidence available, the infection has become widely disseminated. The eradication of the disease under these conditions will entail heavy costs.

We wonder if the public welfare would not have been better served if the United States Public Health Service had kept to its "traditional task"? If all the energies used to bring about radical change in medical practice had been used in the direction of controlling the importation and spread of disease, the public, in our opinion, would have been better served.

THE SOUTHERN MEDICAL ASSOCIATION

The following communication is addressed to the medical profession of Tennessee by Dr. W. L. Williamson, Memphis, General Chairman of the Committee on Arrangements:

"Each member of the State Society has received a preliminary program of the thirty-third annual meeting of the Southern

Medical Association. Meeting dates: Tuesday, Wednesday, Thursday, and Friday, November 21-24, 1939, Memphis, Tennessee.

"Please look carefully through this program and I am sure you will decide a visit with us will be well worth your time.

"As a Memphian, I am very much interested in the success of the Memphis Day Program, which is Tuesday, November 21. This program will be given by good men who have devoted considerable time and thought to the preparation of their subjects.

"The Public General Session, Tuesday night at the Municipal Auditorium, will have a large attendance. I am sure the presentations of these excellent speakers will prove most interesting and instructive.

"A feature note will be the special program honoring Dr. E. C. Ellett of Memphis on Wednesday, November 22.

"We are expecting a record-breaking attendance at this meeting. For the past two months, it has been difficult for our Hotel Committee to take care of all the requests for reservations. Daily we are finding good accommodations for still more. We are going to comfortably provide for every doctor who will give us advance notice of the time of his arrival. The earlier you communicate with us, the better accommodations we can give you.

"The Alumni Reunions and a number of special parties have already been arranged. You will see many of your old friends.

"As General Chairman of Arrangements, I am especially anxious for a large attendance from the members of our State Association. Personally, I will be delighted to see you and do all I can to make your visit profitable and pleasant.

"W. L. WILLIAMSON, M.D.,
"Chairman of Arrangements."

IN MEMORY OF DR. WILLIAM P. MOORE

We wish to record on the editorial page of the JOURNAL the story of an unusual incident.

The people in and around Portland, Tennessee, erected a monument to the memory of their family doctor who served them for fifty years.

Though he has been dead since 1932, his memory still lives and the affection and esteem in which he was held is attested to by the numerous small contributions from the people which made up the sum necessary for the erection of the memorial.

The memorial was unveiled on Sunday, October 29, with appropriate ceremonies.

Dr. W. D. Haggard of Nashville delivered the dedicatory address.

In these days when rapid change is taking place it seems that some of the finest qualities in our civilization may be lost. It is stimulating to know that they are not entirely gone. Human gratitude and human affection still live, and in this instance it was gratitude to and affection for a family doctor who served long and well.

In his dedicatory address Dr. Haggard spoke, in part, as follows:

"My Friends: It is a privilege to speak of Dr. William P. Moore on the presentation of a monument by his friends and neighbors to honor his life and works. Here in this sainted place where he has reposed for seven years, he lies. There are many here whom finally his skill could not reach and yet these same people were rescued over and over again by his blessed administrations.

"To consecrate this beautiful monument, erected by his survivors, is an honor to which no one would be insensible. It bears the simple words—WILLIAM P. MOORE, 1857-1932. Yet upon the hearts of many of you and these friends who lie so quietly there, has been inscribed words of living affection.

"This large gathering attests to the fealty and love which you bear for this godlike man who lived and ministered among you. When many of you came into this vale of tears there sat Dr. Moore and again when the end came he was by your side baffled, but loyal to the end.

"To think of a life of service in one community for a half century is a challenge to those to come. The many calls for succor in the nights of darkness and storm. Tell me of the pestilence that he has not braved in his errands of mercy—he who was the servant of servants in the cause of human-

ity. His footprints could have been found in the path to every haunt of sickness and suffering. It was a labor of love, a superb endeavor to combat disease and rout it from its citadel. Tell me of his intrepidity in meeting alone and unaided the desperate conditions and with what rare resourcefulness he rose to great responsibilities. I can tell you of his skill and steadfastness in the management of accident and disease, in the perils of childbirth, and the mastery of conditions that only a doctor could conquer. Kipling said his calling exacts the utmost a man could give, full knowledge and a steadfast hand, exquisite judgment, and skill of the highest to be put forth not at any self-chosen moment, but daily, and at the need of others. At times there is only the opportunity for the doctor to put forth the precious effort to guild the gloom of affliction's couch with the silver lining of hope. Dr. Moore has been eyes to the blind, feet to the maimed. He has caused the widow's heart to sing for joy and has gained the blessings of him who was ready to perish.

"He lived in a glorious era of medicine. He witnessed the discovery of all the diseases of germ origin. He saw the wiping out of the great pestilences. He saw life prolonged to the average age of fifty-nine. He has seen yellow fever, cholera, typhoid, diphtheria, tuberculosis, and many other infectious diseases almost wiped off the map. He must have had nearly a half hundred typhoids in one year. It has declined eighty-seven and one-half per cent. The reduction from death from one to four years has been reduced from 159 per 100,000 to seventy-four per 100,000. He has seen the death rate in children from one to four from all causes cut in two. All of this he has helped with and made life and its joys, health and its jewels take the place of mere figures. He has given the hopeless mother back her precious babe and the pale, wan mother to the outstretched arms of her loving husband.

"You, here assembled, have had your lives touched and quickened to higher faith and loftier good works by your sainted friend and benefactor, William P. Moore."

On another page of this issue of the JOURNAL will be found an address by Dr. Maxwell E. Lapham, New Orleans, on the subject of "Postgraduate Medical Education."

This address was delivered to the graduating class of the University of Tennessee this year.

It has attracted considerable comment and is reproduced here because it is a worthwhile contribution on the subject treated.

DEATHS

DR. J. W. GREER

Dr. J. W. Greer, Franklin; Memphis Hospital Medical College, Memphis, 1899; aged sixty-nine; died October 16.

DR. E. L. ELLIS

Dr. E. L. Ellis, Maryville; University of Tennessee, College of Medicine, Memphis, 1903; aged sixty-three; died October 22.

RESOLUTIONS

DR. ROBERT LOGAN JONES

After an illness of a few months Dr. Robert Logan Jones died in Nashville on September 15, 1939.

Dr. Jones achieved numerous honors in his chosen profession. He held the post of bacteriologist for the city of Nashville for many years. In this capacity he served earnestly, faithfully, and with rare distinction. For a number of years he served as pathologist to the Nashville General Hospital and to the Protestant Hospital. To each of these institutions he rendered a signal service, which was a boon to those to whom he ministered.

He was past president of the Nashville Academy of Medicine and Davidson County Medical Society. He was eminently worthy of this tribute accorded him by the members of his profession.

His patriotism was attested during the World War when he served overseas as a major in the medical corps. At the time of his death he held the rank of lieutenant colonel in the medical reserve corps.

Dr. Jones exemplified to the highest degree those qualities which characterize a true Southern gentleman. He was modest and unpretentious, possessed of a keen sense of humor, given to quaint and piquant expressions, simple, and temperate in all things. He was a loving and devoted husband, a good father, and a loyal friend.

His gentle, kindly soul reminds:

" 'Tis the human touch in this world that counts,

The touch of your hand and mine,
Which means far more to the fainting heart

Than shelter and bread and wine.

"For shelter is gone when the night is o'er,

And bread lasts only a day,

But the touch of the hand, and the sound
of the voice

Sings on in the soul always."

We, his medical confreres, extend to his family a sympathy born of our common love.

W. H. WITT, M.D.

CHAS. C. TRABUE, M.D.

H. M. TIGERT, M.D.

D. W. SMITH, M.D.

NEWS NOTES AND COMMENTS

Dr. H. H. Shoulders

Tennessee State Medical Association

Nashville, Tennessee

Dear Doctor Shoulders:

I have been asked to write you a letter to express to you the appreciation of the Washington County Medical Society for the most excellent course in pediatrics given here by Dr. Willis H. Thompson, instructor for the Committee on Postgraduate Instruction in Pediatrics.

There were seventeen doctors enrolled and all of them were very high in their praise of this work.

Cordially yours,

(Signed) WALTER D. HANKINS, M.D.,
Secretary, Washington County Medical Society.

CHANGE OF ADDRESS

Dr. John M. Saunders, Nashville, to the Children's Bureau, United States Department of Labor, Washington, D. C.

Dr. Thos. Wells, Memphis, to Hutchinson, Kansas.

Dr. John C. McKissick, Paris, to Fort Barrancas, Pensacola, Florida.

Dr. J. R. Wilson, Bolivar, to Pace-Chambers Clinic, Seminole, Oklahoma.

Dr. W. C. Winton, San Francisco, California, to 48 East First Street, Tucson, Arizona.

Dr. H. C. Miles, Western State Hospital, Bolivar, to Kingston, Tennessee.

Dr. L. S. Love, Central State Hospital, Nashville, to Silver Point, Tennessee.

North Carolina is to publish an official journal of its own. Dr. Wingate M. Johnson, Winston-Salem, is to be the editor, and Dr. T. W. M. Long of Roanoke Rapids will be the secretary and business manager. Congratulations and best wishes for success!

WOMAN'S AUXILIARY

President-----Mrs. Matt Murfree
Murfreesboro

President-elect-----Mrs. W. T. Braun
Memphis

Press and Publicity-----Mrs. R. Z. Linney
Madison

DAVIDSON COUNTY

The Woman's Auxiliary to the Nashville Academy of Medicine and Davidson County Medical Society met Friday for luncheon at the home of Mrs. Andrew Hollabaugh, Jr., on Walnut Drive. A feature of the meeting was a talk on the Community Chest given by James G. Stahlman, general chairman of the Chest Drive. The program was under the direction of Public Relations Committee and the chairman, Mrs. Theodore Morford, introduced the speaker. In the absence of the president, Mrs. Joseph Travenick, Jr., Mrs. T. G. Pollard presided over the business session. Mrs. Cleo Miller presented the program for the year which

was adopted and a donation voted the Community Chest. Mrs. B. F. Byrd distributed yearbooks.

Guests of the auxiliary were: Mrs. A. N. Hollabaugh, Mrs. S. S. Crockett, Mrs. W. F. Tanksley. Assisting Mrs. Hollabaugh, the hostess, were: Mrs. Fowler Hollabaugh, Mrs. J. Sumpter Anderson, Mrs. Roger Burrus, Mrs. Theodore Davis, Mrs. Paul Purks, Mrs. R. Z. Linney, Mrs. D. J. Johns, Mrs. Travis Martin, Mrs. J. H. Kirtley, Mrs. Rogers Herbert, and Mrs. Elkin Rippey.

SHELBY COUNTY

On Thursday, October 12, Mrs. Walter A. Ruch, president, entertained the board and committee chairmen of the Woman's Auxiliary and Shelby County Medical Society with luncheon in her home, 1492 Vance Avenue. Following luncheon a board meeting followed and plans for the year's work were discussed.

Mrs. Willis C. Campbell, chairman of entertainment of the Ladies' Committee of the Southern Medical Association, presented a brief outline of the activities arranged for the visiting women during the Southern meeting in Memphis in November.

A luncheon was planned by the Auxiliary for the guests.

The regular meeting of the Woman's Auxiliary and Shelby County Medical Society was held Wednesday morning, October 18, at 10:30 o'clock in the University Center.

Mrs. Walter A. Ruch, president, presided. Dr. Willis C. Campbell of Memphis was guest of honor and speaker. Following the meeting Mrs. Willis C. Campbell, assisted by Mrs. T. P. Nash, were hostesses for luncheon. Fall colors prevailed in the rooms where luncheon was served.

CARTER COUNTY

Plans have been made for the Auxiliary members to write a history of the medical profession in Carter County. Various assignments have been made and the work is under way.

RUTHERFORD COUNTY

Rutherford County Medical Auxiliary choose new officers.

Resignation of Mrs. H. H. Hudson as president and Mrs. R. C. Van Hook as secretary of the Woman's Auxiliary of Stone's River Academy of Medicine and appointment of a committee to select their successors constituted the principal motives discussed at a meeting of the organization Friday, October 21.

Mrs. J. B. Black was hostess, the meeting being held at her home on East Lytle. Nominating Committee appointed was Mrs. Matt Murfree, Mrs. Val Sanford, and Mrs. Annie Youree.

The Auxiliary voted to give two dollars to the Council of Social Agencies. A new member, Mrs. J. H. Gilley, was welcomed in the Auxiliary.

The Auxiliary presented Mrs. Hudson with a gift to mark her departure November 1 for Dyersburg, Tennessee, to make her home.

It was announced the next meeting will be held at Rutherford Hospital, with Mrs. John Cason and Mrs. W. T. Robinson as hostesses.

LINCOLN COUNTY

The Lincoln County Medical Auxiliary resumed its regular meetings after a rest during the summer months. We were happy to meet with Miss Ellen Graham of Boonville, daughter of a much-loved doctor, now deceased. The new president, Mrs. Robert McCown, presided, and the program for the year's work was read.

Miss Graham delighted us by the reading of a paper by her father, "The Life and Work of a Country Doctor," which appeared in THE JOURNAL OF THE TENNESSEE STATE MEDICAL ASSOCIATION. Mrs. Mattie Miller, formerly Miss Mattie Graham, of Manchester was present.

The next meeting will be with Mrs. Joplin in Petersburg.

KNOX COUNTY

The regular October meeting was held at the home of Mrs. J. R. Hamilton. The guest speaker was Dr. Robert Leach, president of

the Knox County Medical Society. Luncheon was served.

The November meeting was held with Mrs. H. Dewey Peters. Mrs. Woods Beckman was guest speaker for the day. Luncheon chairmen for the day were Mrs. R. B. Wood, Mrs. Oliver Hill, Sr., and officers of the Auxiliary.

A Red Cross sewing unit of Auxiliary members has been formed under direction of Mrs. H. L. Carroll. Ladies of the Auxiliary will sew and knit on the second Monday each month at Red Cross headquarters.

MEDICAL SOCIETIES

Davidson County:

Papers scheduled to be read are as follows:

November 21 — "Hysterectomy Operations," by Dr. John C. Burch.

November 28 — "Correctable Conditions Occasionally Labeled Idiopathic Epilepsy," by Dr. T. F. Frist.

December 5—"Surgery of the Thyroid Gland," by Dr. Barney Brooks.

December 12—"Treatment of the Ruptured Appendix," by Dr. W. A. Bryan.

December 19—"Obstetrical Difficulties," by Dr. L. J. Caldwell.

Dyer, Lake, and Crockett Counties:

The Dyer, Lake, and Crockett Counties Medical Society met November 1 in regular monthly session.

"Mastoid Disease," by Dr. Frank D. Linn, Memphis.

"Administration of Fluids," by Dr. Clyde V. Crowell, Memphis.

"Peptic Ulcer: Diagnosis and Management," by Dr. R. L. Sanders, Memphis.

(Signed) C. L. DENTON, *Secretary*.

Hamilton County:

Papers read before the Hamilton County Medical Society are as follows:

October 19—"Obscure Fever," by Dr. F. E. Marsh.

"Malignant Lesions of the Skin," by Dr. F. B. Bogart.

October 26—Chattanooga Clinical Congress.

November 2 — "Intracapsular Cataract Operation: Demonstration, Motion Picture, Cases," by Dr. Stewart Lawwill.

November 9—"Fracture of the Hip: Four Years' Experience with Internal Fixation—Nailing," by Dr. Robert C. Robertson.

On November 16 Dr. W. D. L. Record will read a paper on "Surgery of the Thyroid Gland—Report of Cases Since 1929."

Papers scheduled to be read November 23 are "Ten-Year Study of Local Maternity Mortality," by Dr. Edward F. Buchner, Jr., and "Chronic Urethritis, Nonpurulent, in Women," by Dr. G. M. Roberts.

Hardin, Lawrence, Lewis, Perry, and Wayne Counties:

The Five-County Medical Society met in Waynesboro on October 31. The following papers were read:

"The Menopause," by Dr. Dexter L. Woods, Waynesboro.

"Some Considerations of the Prostate," by Dr. Charles S. Paddock, Memphis.

"Diagnosis and Treatment of Common Diseases of the Rectum," by Dr. J. E. Watson, Memphis.

The next meeting will be held in Savannah on November 27, at which time officers for the coming year will be elected. This will be the last meeting for the year 1939.

Knox County:

October 17—"Infectious Mononucleosis," by Dr. R. B. Wood. Discussed by Drs. Long and Thomas.

October 24—"Intervertebral Disc Pathology," by Dr. Leon J. Willien. Drs. Bagwell and Penn led the discussion.

October 31—"The Diagnosis of Obscure Fevers in Children," by Dr. Jack Chesney. Drs. Eblen and Oliver W. Hill, Jr., led the discussion.

November 7—"Total vs. Subtotal Hysterectomy in Benign Conditions of the Uterus," by Dr. J. C. Morris. Discussed by Drs. E. G. Wood and Kyle Copenhagen.

Loudon County:

The Loudon County Medical Society met October 31 at the new county hospital. Plans were discussed for the procedure of the hospital.

The meeting was attended by all members.

Robertson County:

The Robertson County Medical Society met October 24.

Dr. W. S. Rude, Ridgetop, read a paper on "Cancer of the Lung."

The following physicians were present: Drs. J. E. Wilkison, W. S. Rude, W. W. Winters, J. S. Freeman, R. L. Mathews, W. P. Stone, W. W. Porter, B. B. Sory, W. L. Gossett, C. M. Banks, J. S. Hawkins, and W. F. Fyke.

Sullivan-Johnson Counties:

The Sullivan-Johnson Counties Medical Societies met on November 1.

Dr. W. H. Sebrell, surgeon of the United States Public Health Service, Washington, D. C., spoke on the topic, "Nutritional Deficiency Diseases," and gave a very complete résumé of the situation regarding pellagra.

There were forty-three physicians and seven nurses present.

OTHER MEDICAL SOCIETIES

PROGRAM OF THE MIDDLE TENNESSEE MEDICAL SOCIETY, SPRINGFIELD, THURSDAY, NOVEMBER 16, 1939

Thursday Morning

1. "Some Interesting Observations on the Transmission of Infantile Paralysis," by Dr. R. C. Kash, Lebanon. To discuss: Dr. J. S. Hawkins, Springfield; Dr. John Lee, Nashville.

2. "The Care of the Newborn," by Dr. Frazier Binns, Nashville. To discuss: Dr. J. R. Gott, Murfreesboro; Dr. Joe Strayhorn, Nashville.

3. "Experiences with the Use of Sulfanilamide in the Treatment of Undulant Fever," by Dr. Albert Weinstein, Nashville.

To discuss: Dr. C. D. Giles, Gallatin; Dr. O. N. Bryan, Nashville.

4. "The Troublesome Prostate in Old Men," by Dr. J. C. Pennington, Nashville. To discuss: Dr. Bryce Runyon, Clarksville; Dr. Horace Gayden, Nashville.

Thursday Afternoon

5. Presidential address by Dr. Matt Murfree, Murfreesboro.

6. "Pelvic Endometriosis," by Dr. R. B. Gaston, Lebanon. To discuss: Dr. T. R. Ray, Shelbyville; Dr. W. C. Dixon, Nashville.

7. "Typhus Fever," by Dr. J. P. Keller, Nashville. To discuss: Dr. J. T. Stockard, Lawrenceburg; Dr. Tom Frist, Nashville.

8. "The Factors of Safety in Thyroid Surgery," by Dr. N. S. Shofner, Nashville. To discuss: Dr. George Williamson, Columbia; Dr. James Gardner, Nashville.

9. "Office Obstetrics," by Dr. S. Ogle Jones, Old Hickory. To discuss: Dr. W. A. Howard, Cookeville; Dr. W. B. Anderson, Nashville.

ABSTRACTS OF PAPERS PRESENTED AT VANDERBILT MEDICAL SOCIETY, OCTOBER 6, 1939

1. Case Report: "Amebiasis of Abdominal Wall Following Drainage of Abscess of Liver," by Dr. Thomas E. Wyatt.

This thirty-four-year-old white male six months before admission began to have boring cramping pain in the epigastrium. Four months before admission this pain became constant and a short time later he noticed a mass which presented itself just beneath the manubrium. This mass steadily increased in size until six weeks before admission when it was incised and drained by his physician. Only heavy pink fluid was obtained. Three weeks after incision and drainage, the abdominal wall began to become necrotic. This involved skin, subcutaneous tissue, and fascia from the costal margin to the pubis. There was a zone of skin around this huge ulcer which was gangrenous. On examination he was also found to have a deep sinus to the left of the manubrium, into which a finger could be inserted

its entire length. Foul pus and bile exuded from this. Motile entameba histolytica were found from the pus exuding from the sinus and also under the margins of the skin and subcutaneous tissue. Extensive debridement was done and patient given several courses of emetin intramuscularly. The denuded area granulated after being irrigated with Dakin's solution. The entire abdomen was grafted and he is making a satisfactory recovery. This represents a case of infection of the anterior abdominal wall with entameba histolytica following drainage of a liver abscess.

This case was discussed by Drs. Henry E. Meleney and Barney Brooks.

2. "Certain Complications of Thyrotoxicosis," by Dr. Hugh J. Morgan.

Examples of thyrotoxic osteoporosis and thyrotoxic myopathy, which had been collected from the Vanderbilt University Hospital material, were presented. The pathogenesis of thyrotoxicosis and these two manifestations of the thyrotoxic state were discussed. The clinical features of the conditions as exemplified by typical case histories were presented.

This paper was discussed by Drs. Barney Brooks, Morton F. Mason, Edna Tompkins, Walter E. Garrey, and Eugene M. Regen.

3. "Motor Seizures Accompanying Small Cerebellar Lesions in Cats," by Dr. Sam L. Clark.

Following the demonstration that electrical stimulation through implanted electrodes in the unanaesthetized cat produced a new type of fit, it was observed that a needle punch to the cerebellum in the unanaesthetized cat was followed by seizure identical with these. In addition the appearance of a small infection beneath implanted electrodes in several cats resulted in spontaneous cerebellar attacks. These attacks are characterized by slow movements of the head, body, limbs, and tail of the animal, resulting in a series of statueque postures, the whole attack lasting five to fifteen minutes.

This paper was discussed by Dr. Cobb Pilcher.

PROGRAM FOR THE SIXTH CONFERENCE OF
SOUTHERN PATHOLOGISTS TO BE HELD
IN MEMPHIS, TENNESSEE, NOVEMBER 20, 1939
10:00 A.M.

Assemble in the ballroom, University Center.

Welcome by Dr. T. P. Nash, Jr., dean, University of Tennessee, School of Biological Sciences, Memphis.

1. "The Aspiration Biopsy," by Dr. W. R. Mathews, pathologist, Shreveport Charity Hospital, Shreveport, Louisiana.

2. "The Teaching of Pathology and Bacteriology as One Subject Matter," by Dr. Charles W. Duval, professor of pathology and bacteriology, Tulane University of Louisiana, School of Medicine, New Orleans, Louisiana.

1:00 P.M.

Luncheon in the dining room, John Gaston Hospital.

Address by Dr. O. W. Hyman, dean of administration, University of Tennessee, Memphis.

3:00 P.M.

3. "The Present-Day Status of Clinical Pathology and Problems of the Clinical Pathologist," by Dr. Oscar B. Hunter, pathologist, Washington, D. C.

4. "Some Unusual Infections of the Intestine and Problems That They Present," by Dr. Ernest W. Goodpasture, professor of pathology, Vanderbilt University, School of Medicine, Nashville, Tennessee.

5. Business meeting.

7:00 P.M.

Dinner (informal) at Dr. Harry C. Schmeisser's home, Mahar Manor, Walnut Grove Road.

The officers of the Southeastern Branch of the American Urological Association announce that the next annual meeting of the society will be held at the Buena Vista Hotel in Biloxi, Mississippi, December 8 and 9.

The society takes this opportunity to extend to the physicians of the Southeast an invitation to attend this meeting. It is the intent and purpose of the society that its programs shall not only serve its members,

but that it shall also be offered as a form of postgraduate course open to all members of the profession in good standing.

ATTENTION, MEMBERS OF THE MEDICAL ASSOCIATION OF TENNESSEE

All members of the association are cordially invited to attend the annual meeting of the Radiological Society of North America which will be held in Atlanta, Georgia, December 11-15, 1939. This annual meeting is coming to Atlanta for the first time and represents in its membership the leading radiologists of the United States and Canada. The program is unusually broad and instructive, being divided into three parts:

1. What is known as the "Refresher Course" which consists of courses on various subjects given by the leading men in this particular branch. This refresher series begins Sunday afternoon, December 11, for three hours, Sunday night for two hours, and meets daily from 8:00 to 10:00 A.M. Several of the courses, particularly those subjects of wider scope, such as "Radiology of the Gastrointestinal Tract" and "Radiology of the Chest," are so arranged that related subjects will follow consecutively, making it possible to enroll in a sequential series. Basic presentations of "Radiation Therapy" will also be offered in series so that those with special interests may find "Refresher Courses" extending over the entire period of the series. The course on "Physics of Radiation" will be presented three hours on Sunday afternoon and two hours each morning of the meeting, and will follow the syllabus of lectures on the "Physical Basis of Radiation Therapy," by Edith H. Quimby.

2. The morning session of this assembly is a mixed meeting on topics of "Radiology," including roentgenology and radium.

3. The afternoon meeting is divided into two parts: (1) Diagnostic Roentgenology; (2) Therapeutic Roentgenology and Radium Therapy.

There is no expense to the association for registration or to attend either the re-

fresher series of courses or the symposium. Membership in the "Refresher Courses" is limited first to the members of the Radiological Society. After that any physicians applying are listed in the order of application. Anyone desiring to attend this meeting should obtain the October issue of the *Radiological Journal* and study the program for whatever "Refresher Course" he should desire to take.

Besides the scientific program, both the commercial and scientific exhibits will be well worth attention of anyone interested in radiology. The Georgia Radiological Society is interested in having as large attendance as possible and we know that anyone interested in radiology will be well repaid for attending this convention.

JAMES J. CLARK, M.D., *President,*
Georgia Radiological Society.

COMING MEETINGS

American Academy of Pediatrics, Cincinnati, November 16-18. Dr. Clifford G. Grulee, 636 Church Street, Evanston, Illinois, secretary.

American Board of Ophthalmology. Applications before 1940. Dr. John Green, 6830 Waterman Avenue, St. Louis, Missouri.

American Medical Association, New York, June 10-14, 1940. Dr. Olin West, 535 North Dearborn Street, Chicago, Illinois, secretary.

American Society of Tropical Medicine, Memphis, Tennessee, November 21-24. Dr. E. Harold Hinman, Wilson Dam, Alabama, secretary.

Midsouth Postgraduate Medical Assembly, Memphis, February 13-16, 1940. Dr. A. F. Cooper, Goodwyn Institute Building, Memphis, secretary.

Middle Tennessee Medical Association, Springfield, November 16. Dr. Fowler Hollabaugh, secretary.

Radiological Society of North America, Atlanta, December 10-15. James J. Clark, M.D., vice-president, 478 Peachtree Street, Atlanta, Georgia.

Southern Medical Association, Memphis, November 21-24. Mr. C. P. Loranz, Empire Building, Birmingham, Alabama, secretary.

Southeastern Branch of the American Urological Association, Buena Vista Hotel, Biloxi, Mississippi, December 8 and 9, 1939. Dr. Louis M. Orr, secretary.

Southern Surgical Association, Augusta, Georgia, December 5-7, 1939. Dr. E. Alton Ochsner, 1430 Tulane Avenue, New Orleans, Louisiana, secretary.

Tennessee State Medical Association, Chattanooga, April 9-11, 1940. Dr. H. H. Shoulders, 508 Doctors Building, Nashville, secretary.

West Tennessee Medical and Surgical Association, Jackson, May, 1940. Dr. George R. McSwain, Paris, secretary.

EXAMINATIONS

American Board of Obstetrics and Gynecology, January 6, 1940. Dr. Paul Titus, 1015 Highland Building, Pittsburgh, Pennsylvania, secretary.

ABSTRACTS OF CURRENT LITERATURE

ANESTHESIA

By HUGH BARR, M.D.
Medical Arts Building, Nashville

Anesthetic Accidents on the Operating Table. James J. Yancik. Current Researches in Anesthesia and Analgesia, May-June, 1939.

Details are given of seven major catastrophes on the operating table resulting in five deaths and one subsequently. One death was due to a poor surgical risk, one due to poor choice of preliminary narcosis in a poor surgical risk. One nonfatal catastrophe was due to a poor choice of the anesthetic in view of the type of surgical injury. One was due to the surgical condition and procedure itself and three were due to the anesthetic in reaction to the patient.

The first case had cyclopropane, the second and third ethylene, and the fourth case had cessation of respiration following the administration of evipal with recovery after two hours of artificial respiration and oxygen.

The fifth case having received preoperative administration of nembutal, morphine and scopolamin followed by spinal anesthesia collapsed on the table and was revived, but died thirty-six hours later from edema of the lungs without ever having recovered consciousness.

The sixth case who had ethylene oxygen preceded by morphine and scopolamin for a thyroidectomy died without developing cyanosis. The seventh case was a child fourteen months old with pericarditis with effusion. Under chloroform anesthesia a little fluid was withdrawn and death suddenly ensued.

The author presents some statistics concerning the relative danger of various anesthetics. Ninety-nine ether fatalities out of 51,447 cases, thirty-three

nitrous oxide out of 18,161, forty-eight spinal out of 8,159, twenty local out of 18,659, eleven avertin out of 2,287, and none for ethylene out of 1,229, and six from cyclopropane out of 1,206 cases.

DERMATOLOGY

By E. E. BROWN, M.D.
Doctors Building, Nashville

Pruritus Ani et Vulvae. Howard Hailey, M.D., Associate Clinical Professor of Dermatology, and Hugh Hailey, M.D., Assistant in Dermatology, Atlanta, Georgia.

The author's review of the literature reveals a number of classifications of etiologic factors and a wide divergence of opinions as to prognosis, treatment, and end results. Roentgen ray treatment was unjustly condemned in several articles by physicians probably not familiar with its application.

From their observations they concluded that the vast majority of cases of essential, idiopathic or true pruritus of the anus and vulva are due to eczema. They list the causes as both indirect and direct. The indirect they believe to be due to the patient's heredity of hypersensitiveness as eczema, asthma, hay fever, and migraine. They propose the direct causes as (1) chemicals (drugs, dyes), (2) clothing (wool, synthetic fabrics, rubber), (3) hemorrhoids, (4) diet, (5) heat, perspiration, and friction, and (6) atmospheric conditions.

They further believe that commonly enumerated pathological anal and rectal conditions, other than hemorrhoids, are not responsible for attacks of pruritus of the anus and that it cannot be permanently cured by operation.

They observed 105 patients with pruritus ani et vulvae and in the series eighty per cent showed eczema of other parts of the body. Sixty per cent of their cases gave histories of hypersensitiveness in one or more immediate blood relations.

They are of the opinion that hemorrhoids do not cause eczema of the anus except in persons who have inherited a predisposition to hypersensitiveness, also that pelvic and anorectal disease has not been proved to cause pruritus ani et vulvae. They further concluded that eczema of the vulva and anus has the same prognosis as eczema elsewhere and the roentgen ray treatment offers the most benefit to the patients.

In their series of 105 patients treated by roentgen rays, good results, which were called clinical cures, lasting from variable periods of months to years, were obtained in approximately eighty per cent. There was improvement in fifteen per cent and unsatisfactory in five per cent.

INTERNAL MEDICINE

By R. B. WOOD, M.D.
By D. R. THOMAS, M.D.
Medical Arts Building, Knoxville

Circulatory Effects of Intravenous Injection of Fifty Per Cent Dextrose and Sucrose Solutions in Patients with Heart Disease. Laurence B. Ellis, M.D., and James M. Faulkner, M.D., Boston, Massachusetts. *The American Heart Journal*, May, 1939.

The cardiovascular effects resulting from the intravenous injection of 100 cubic centimeters of a fifty per cent solution of dextrose or sucrose were studied in five control subjects and thirty-one patients with heart disease who had varying degrees of cardiac failure.

Slight or no changes in the arterial blood pressure and heart rate occurred.

The venous pressure tended to increase moderately during the injection, but began to return toward normal immediately on its completion. The increase ranged from five-tenths to seven centimeters of water, with an average of 2.6 centimeters for those who received dextrose and 3.5 for those who received sucrose.

The plasma volume increased from three to seventeen per cent (average thirteen per cent) within a minute of the completion of the injection. The rise persisted a varying period of time, but usually by thirty minutes the plasma volume had begun to fall again and in most cases had reached or fallen below the control level within an hour.

No difference in the response was noted which could be correlated with the presence or absence of heart disease, or the etiology, degree, or type of heart failure.

The responses obtained with dextrose and with sucrose were similar.

The clinical implications of this study, regarding the efficacy of dextrose and sucrose in increasing blood volume, and particularly as relating to the strain thrown on the circulation by such injections, especially in patients with heart disease, are discussed.

OBSTETRICS AND GYNECOLOGY

By HAMILTON V. GAYDEN, M.D.
Suite 234 Doctors Building, Nashville

Toxemia Mortality in the Southern States (a Critical Study of 577 Maternal Deaths in North Carolina). W. Z. Bradford. *American Journal of Obstetrics and Gynecology*, Vol. 38, p. 574, 1939.

The percentage of maternal deaths in the South from the toxemias of late pregnancy is strikingly high when compared to other sections of the United States, and presents a peculiar sectional problem worthy of consideration. The high maternal mortality rate in the southern states from the toxemias of late pregnancy is possibly abetted by the hot,

wet climate characteristic of this section of the United States. A detailed study of 515 maternal deaths from late pregnancy toxemia occurring in North Carolina during the years 1932 through 1936 reveals other and more important contributing factors than those of climate. First among these is neglect. Only twelve patients received adequate prenatal care and competent medical supervision. Two hundred fifty-two were seen for the first time by a physician late in their pregnancy either in convulsions or with advanced toxemia. Seventy received their first medical attention when in labor and seventy-three saw a physician for the first time after delivery. In 108 cases there was prenatal care of an inadequate or faulty type. This study confirms the fact as repeatedly stated by Stander, Acosta-Sisson, and others that the toxic multipara with a history of toxemia in a previous pregnancy is a grave risk. Approximately forty-five per cent of the multiparas in this study gave a definite history of toxemia in a previous pregnancy, a figure that is too low because of the fact that incomplete obstetric histories were obtained on many of the 515 fatalities. This study also substantiates the additional likelihood of late pregnancy toxemia in the presence of multiple pregnancy and the increased danger in acute upper respiratory or pulmonary infections. It calls attention to the additional risk of premature separation of the placenta and post-partum hemorrhage in the toxemias of late pregnancy because of their increased incidence as complications of the disease. The loss of infant life needs no further comment except to repeat that the approximate yield of living viable infants from the 515 maternal fatalities was less than forty per cent. The increasing trend toward hospitalization of obstetric cases in North Carolina in the past decade (from five per cent of all births in 1926 to twenty per cent in 1937) has been accompanied by a reduction of the maternal mortality from eclampsia, which has fallen from twenty-three per cent in 1926 to twelve per cent in 1937.

OPHTHALMOLOGY

By ROBERT J. WARNER, M.D.
Doctors Building, Nashville

Treatment of Severe Corneal Ulcer with Sulfanilamide. J. H. Bailey and E. Saskin. *American Journal of Ophthalmology*, October, 1939.

In nine cases of severe involvement of the eye, sulfanilamide was administered with strikingly favorable results. Six of these cases were of severe corneal ulcer, the ulcer in most instances being due to chemical burns and trauma. The subjective improvement was rapid and spectacular, and the final visual acuity extremely good. While the lesions healed slowly, progress was more satisfactory than with the usual measures employed for these conditions. Medication was exclusively by mouth. All

of the patients exhibited side effects which, however, did not interfere appreciably with the pursuit of the treatment.

Gonorrheal Ophthalmia Cured After One Week's Treatment with Sulfanilamide. S. H. McKee. *American Journal of Ophthalmology*, October, 1939.

A man aged twenty-three years presented the typical appearance of severe gonorrheal ophthalmia. In addition to the usual local treatment, fifteen grains of sulfanilamide with five grains of sodium bicarbonate every six hours were administered internally. By the third day the discharge was noticeably less, on the fifth day it had almost disappeared, and prolonged search for gonococci in an epithelial cell smear gave negative results.

ROENTGENOLOGY

By FRANKLIN B. BOGART, M.D.

Medical Arts Building, Chattanooga

The Roentgen Treatment of Acute Peritonitis and Other Infections with Mobile X-ray Apparatus. J. F. Kelly and D. A. Dowell. *Radiology*, Vol. 32, No. 6, p. 675, June, 1939.

The early experiences of the authors in treating inflammatory lesions of the peritoneum and gas bacillus infections related. No claims made as regards the value of X-ray in the treatment of peritonitis. The present report is on twenty-four cases of peritonitis treated at the bedside and various other inflammatory lesions of the types of cases treated and results obtained follow:

CASES

Diagnosis	Treated	Living	Dead	Mortality
Peritonitis	24	17	7	29
Streptococcic cellulitis	20	20	0	0
Surgical mumps	14	13	1	7.1
Furunculosis	3	3	0	0
Erysipelas	2	2	0	0
Mastoiditis	3	3	0	0
Ludwig's angina	4	4	0	0
Gas gangrene	12	11	1	8.33
Phlebitis	1	1	0	0
Prophylaxis	9	9	0	0
Pneumonia (lobar)	7	7	0	0
Bacteremia	1	0	1	100
	100	90	10	10%

All types of cases were included and subsequent findings would indicate that X-ray could not have been expected to add very much to the results. For example, one of the cases of peritonitis that died had a complete obstruction as revealed by autopsy. Another case in this group who died had a large amount of free pus in the peritoneal cavity with inadequate drainage.

The authors recommend the use of seventy-five r daily for the prevention of gas bacillus infections

in all posttraumatic cases. Tetanus antitoxin should, of course, be used.

Streptococcus cellulitis cases respond more readily and remain inactive with greater certainty than do *staphylococcus* infections. The earlier X-rays are used in either group of infections the more effective they will be.

INDICATIONS FOR X-RAY TREATMENT

1. In local infections which (a) are likely to spread to adjacent tissues; (b) may develop complications in some distant organs; (c) are likely to destroy large areas of tissue; (d) are associated with severe toxemia; (e) have apparently become stationary with no evidence of repair.

2. As a prophylactic measure in contaminated wounds to prevent infection from becoming established (compound fractures).

3. In bacteremia there is no contraindication to the treatment of a local area of infection from which a bacteremia had its beginning, but in our experience we have not been able to determine whether or not any good has been accomplished by such treatment.

4. In general, in cases in which infection is present, X-ray therapy is indicated, preoperatively and postoperatively.

5. Finally, do not depend upon X-ray therapy to prevent tetanus; use antitoxin.

DANGERS

Wherever the X-ray is used some danger is present. This has been recognized for a great many years. X-ray treatments should be prescribed only by a radiologist. Dangers are acute radiation effects, chronic or slow radiation effects, and electrical shock. X-ray treatments should be given only by a radiologist or a trained technician under the direct supervision of a radiologist; others may have trouble.

CONTRAINDICATIONS

If the treatments are given under direction of an experienced radiologist, there are no absolute contraindications. Repeated small doses of from fifty to seventy r morning, and of from fifty to seventy r evening, for from three to five days during the height of the infection, are recommended. The correct technical factors must be prescribed by the radiologist so that the total dosage given is under the minimum which might damage the skin. This is a clinical problem and the radiologist is responsible. Not every patient treated with X-ray therapy will get well.

X-RAY TECHNIC

(a) Kilovoltage: Sufficient to thoroughly penetrate the involved areas; varies from ninety to 135 kilovolts.

(b) Time and milliamperage: From sixty to 100 r units each treatment through each port; dosage should vary depending on size of the port. A smaller dose may be used on the third or fourth day of the disease; fifty r units are probably sufficient

for late treatments. Subacute cases must be treated an indefinite time so smaller doses are advised.

(c) Ports: Sufficient to cover all involved tissues and adjacent suspected area.

(d) Distance: Fifteen inches (forty centimeters).

(e) Filter: No harm has come from unfiltered therapy, but we believe it to be dangerous, and it is not recommended, as recoveries have occurred with rather heavy (five-tenths millimeter copper) filtration. It is recommended that some filter be used; the absence of filtration may be a legitimate criticism of this procedure and we are opposed to its omission.

(f) Space factor: The reason for treating twice each day, which we insist upon, is based upon the observation that the results in the treatment of infections were better when the space factor or time between treatments approximately coincided with the rate of growth (on culture media or by clinical estimation) of the etiologic organism.

CONCLUSIONS

This material is merely presented to make available to others who are interested some clinical facts which we have observed while treating patients with a bedside therapy X-ray apparatus. Practically all of these lesions, with the exception of gas gangrene, may or may not recover when very little is done for them so nothing can be proven by any series of statistics; cases observed clinically are convincing. As data accumulate relative to the use of the mobile X-ray therapy apparatus, undoubtedly much improvement in technical procedures will result. At the present time we have outlined in a general way the technic we have used in treating numerous infections in patients whom we thought it advisable to treat without moving to the X-ray department. This is done in the interest of the patient who is too sick to be moved, or is held fast in a room by the oxygen tent, the Wangenstein apparatus or intravenous apparatus, all of which are commonly used essentials in treating the seriously sick. We believe that the X-ray is an additional aid in treating some of these patients and that it can be brought to the patient in the form of a mobile unit, having greater kilovoltage than the present-day diagnostic (ninety kilovolts) mobile unit.

SURGERY—GENERAL AND ABDOMINAL

By BATTLE MALONE, II, M.D.
1400 Monroe Avenue, Memphis

Acute: Cholecystitis. Frank Glenn, M.D. Surgery, Gynecology, and Obstetrics, 69: 431, October, 1939.

In the past twenty years an increasing number of surgeons have advocated early or immediate operation for acute cholecystitis, but there is still a great difference of opinion. An analysis of 219 cases of acute cholecystitis is made which were

subjected to operation in the early stages of the disease. The diagnosis is based on both clinical and pathological findings. The usual history and physical findings of an acute inflammatory lesion in the gall bladder are outlined and it was found in this series of cases that often typical signs were absent.

The pathology found at operation usually consists of a reddened distended gall bladder with thick edematous walls. Within the organ are usually found stones and colorless bile or pus. Areas of necrosis and gangrene in the wall may be noted and in some perforation with adhesions to surrounding structures.

In a statistical study it was found that the mortality was not unduly high unless perforation had taken place. Other factors influencing the mortality are the age of the patient and the duration of symptoms referable to the gall bladder before the onset of the acute attack. The outlook is much graver when the symptoms have persisted for more than one year prior to the acute attack, and there is a still greater mortality when the patient is over fifty years of age, particularly where there is perforation. Further study of this series showed that perforation occurred in 7.7 per cent of all cases and accounted for twenty-seven per cent of the total deaths.

The operation of choice is cholecystectomy, but is contraindicated (1) in the presence of peritonitis following perforations; (2) when anatomical relations are obscured so that removal of the gall bladder might injure the hepatic vessels or common duct; (3) in the presence of severe jaundice; (4) and when the general condition is too grave to justify it. In the latter cases some procedure is carried out that will tide the patient over the immediate crisis. Exploration of the common duct is rarely necessary and should not be done unless definitely indicated.

The author's opinion from this study is that the mortality from acute cholecystitis can be lowered only by an early surgical attack. The postoperative course in cases under fifty years of age operated before gangrene or perforation has taken place is almost invariably uneventful. Dehydration, cardiac decompensation, etc., should be counteracted before operation. The mortality rate in the 219 cases was 3.19 per cent irrespective of pathology age or other factors.

UROLOGY

By TOM R. BARRY, M.D., F.A.C.S.
By G. A. WILLIAMSON, JR., M.D.
Medical Building, Knoxville

Factors in Recurrence of Renal Calculi. Chas. C. Higgins. *Journal of American Medical Association*, October 14, 1939.

The recurrence of renal calculi may be true recurrence or false recurrence (the persistence of

fragments of stones overlooked at the time of operation).

According to reports of various authors a progressive decrease in the incidence of recurrence is taking place. At the Cleveland clinic prior to 1933, recurrence of stones occurred in 16.4 per cent; from 1933 to 1939 only 4.9 per cent.

No one etiologic agent is entirely responsible for the formation of all kidney stones. The causative factors should be sought for and eliminated in each individual case.

Of 200 cases of recurrent calculi studied, renal infection was present in 81.5 per cent. Infections caused by urea splitting organism are more prone to have stones than are infections caused by acid-forming organism. Distant foci of infection may be a factor in some cases.

Urinary stasis was present in seventy-two per

cent of the 200 cases, while vitamin A deficiency was present in thirty-four per cent.

Sixty per cent of hyperparathyroid cases are stone formers. This condition is the cause of recurrence in some patients. Cystinuria, gout, oxaluria, xanthine, and phosphaturia are the principal metabolic factors involved in recurrence of calculi.

Operative renal injuries may be responsible for recurrence. Stones are more frequent after nephrolithotomy than after pelviolithotomy. The surgical procedure which is accompanied by a minimum degree of renal trauma is preferable.

It is apparent that many factors are involved in the formation of recurrent renal calculi. An intensive investigation should be made of each individual case for the cause or causes and treatment instigated for their correction.

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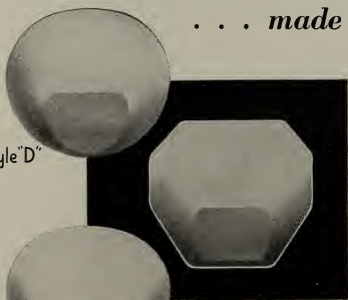
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Volume XXXII

December, 1939

No. 12

PROCEEDINGS OF THE HOUSE OF DELEGATES, ONE HUNDRED
SIXTH ANNUAL SESSION, TENNESSEE STATE MEDICAL
ASSOCIATION, NEW SOUTHERN HOTEL,
JACKSON, TENNESSEE

APRIL 11, 12, 13, 1939

TUESDAY AFTERNOON MEETING

The opening meeting of the House of Delegates of the Tennessee State Medical Association, held in connection with the One Hundred Sixth Annual Session of the Association, at the New Southern Hotel, Jackson, Tennessee, convened at two fifteen o'clock, Dr. E. R. Zemp, Knoxville, Speaker of the House of Delegates, presiding.

THE SPEAKER: The first order of business is the roll call.

Secretary Shoulders called the roll of elected certified delegates.

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Dr. W. B. Burns-----Memphis

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Dr. H. H. Shoulders-----Nashville

Ex-Presidents

Dr. S. R. Miller-----Knoxville

Dr. Jere L. Crook-----Jackson

Dr. W. D. Haggard-----Nashville

Dr. E. C. Ellett-----Memphis

Dr. Edward T. Newell-----Chattanooga

Dr. Richmond McKinney-----Memphis

Dr. A. F. Richards-----Sparta

Dr. W. B. Burns-----Memphis

Dr. H. M. Tigert-----Nashville

Dr. W. C. Dixon-----Nashville

Dr. E. R. Zemp-----Knoxville

Dr. Battle Malone-----Memphis

Dr. K. S. Howlett-----Franklin

Dr. L. T. Stem-----Sarasota, Florida

Dr. J. B. McElroy-----Memphis

Dr. T. R. Ray-----Shelbyville

Dr. W. P. Woods-----Knoxville

Dr. H. B. Everett-----Memphis

Dr. J. O. Manier-----Nashville

Dr. John Steele-----Chattanooga

Dr. W. L. Williamson-----Memphis

Dr. Geo. Williamson-----Columbia

THE SPEAKER: I rule that the roll call as heard, and the ex-presidents and the officers, constitute a quorum present. I will appoint the committees now.

REFERENCE COMMITTEE APPOINTED

Credentials Committee—Dr. Ralph Monger, Knoxville, Chairman; Dr. J. P. Gilbert, Nashville; Dr. W. B. Burns, Memphis.

Committee on Reports of Officers—Dr. O. N. Bryan, Nashville, Chairman; Dr. J. B. Stanford, Memphis; Dr. Kyle Copenhaver, Knoxville.

Committee on Reports of Committees—Dr. J. O. Manier, Nashville, Chairman; Dr. Franklin B. Bogart, Chattanooga; Dr. E. H. Baird, Dyersburg.

Committee on Resolutions—Dr. Jack Thompson, Jackson, Chairman; Dr. Hiram A. Laws, Chattanooga; Dr. D. W. Smith, Nashville.

NOMINATING COMMITTEE

A five-minute recess was ordered so that the delegates from the East, Middle, and West grand divisions might name the nominating committee. When called to order after the recess, Dr. E. T. Newell reported for East Tennessee; Dr. S. J. Fentress for Middle Tennessee; and Dr. W. B. Burns for West Tennessee.

The Nominating Committee so reported was composed of:

Dr. K. C. Copenhaver, Knoxville; Dr. J. B. Swafford, Chattanooga; Dr. J. E. Carson, Maryville; Dr. C. M. Hamilton, Nashville; Dr. Thurman Shipley, Cookeville; Dr. R. N. Buchanan, Lebanon; Dr. Webb Key, Memphis; Dr. J. D. Brewer, Dyersburg; Dr. W. O. Baird, Henderson.

The Committee on Credentials had not met and Speaker Zemp called for reports of officers.

DR. HAMILTON: Mr. Speaker, I would like to submit an audit of our financial account for my report as Treasurer.

**REPORT OF AUDIT FOR YEAR ENDED
DECEMBER 31, 1938**

To the Chairman and Board of Directors, Tennessee State Medical Association, Nashville, Tennessee.

SIRS:

We have audited the cash receipts and disbursement records of the Tennessee State Medical Association for the year ended December 31, 1938. The results of our examination are presented in the comments on audit and on the exhibit and schedules designated as follows:

Exhibit "A"—Statement of Receipts and Disbursements for the Year Ended December 31, 1938.

Schedule A-1—Cash in Banks at December 31, 1938.

Schedule A-2—Statement of Receipts by Months for the Year Ended December 31, 1938.

Schedule A-3—Statement of General Funds for the Year Ended December 31, 1938.

Schedule A-4—Investments at December 31, 1938.

Comments on Audit

Cash in banks, \$3,523.62, was verified by reconciliations of the statements as rendered by the banks with the Association's records. All cash receipts appearing in the records were traced into the depositories. Cancelled checks were examined, signatures and endorsements scrutinized, and the amounts and payees thereon were compared with the cash disbursement record for a verification of disbursements.

Investments, \$12,564.81, and Cash Available for Investment, \$639.70. The Association has invested funds aggregating \$12,564.81. This is represented by \$8,443.81 in first mortgage real estate notes at cost and \$4,000.00 par value bonds of the Home Owners Loan Corporation at cost of \$4,121.00. These securities were examined by our representative on February 18, 1939. On Schedule A-4 the items comprising the invested funds are detailed. For the purposes of record the bonds are carried at cost. We were informed by Mr. W. L. Whitaker of the First Mortgage Company that the Association has with that Company a cash balance of \$639.70 representing collections of principal and interest.

General

Fire insurance on office furniture and fixtures in the amount of \$500.00 and a fidelity bond on the Treasurer, Dr. Charles M. Hamilton, were in effect at December 31, 1938.

As the records are maintained on a cash receipt and disbursement basis, we have not attempted to prepare a schedule of assets and liabilities at December 31, 1938. However, an examination of unpaid invoices revealed only minor items of expense outstanding at December 31, 1938. These were

liquidated in January, 1939. During the year 1938 twelve issues of the MEDICAL JOURNAL were published and paid for; also the expense of the December, 1937, issue was liquidated in January, 1938.

Respectfully submitted,
OSBORN & DUNCAN.

By HILARY H. OSBORN.
Certified Public Accountant.

February 18, 1939.

EXHIBIT "A"**Statement of Receipts and Disbursements for the Year Ended December 31, 1938**

RECEIPTS	
Dues	\$9,264.00
Interest on Investments	523.51
Payments on Principal of Investments	206.19
Advertising	4,639.41
Exhibit Space	781.45
Subscriptions and Extra Copies of Journal	19.88
Cuts	27.50
Medical Defense	25.64
Refunds and Miscellaneous	39.00
Total Receipts	\$15,526.58

DISBURSEMENTS—SCHEDULE A-3	
American National Bank	\$4,182.50
Convention Expense	900.77
Salaries	5,736.00
Board of Trustees	23.50
Medical Education Committee	1,807.56
Investments	450.00
Returned Checks	29.22
General Expense and Other Disbursements	2,546.16
Total Disbursements	\$15,675.71

Excess of Disbursements over Receipts Represented by:	149.13
General Fund Balance, 12-31-37	\$3,672.75
Less	
General Fund Balance, 12-31-38, Schedule A-1	3,523.62
Decrease in Bank Balance, Year Ended December 31, 1938	\$ 149.13

SCHEDULE A-1**Cash in Banks at December 31, 1938**

American National Bank	
Balance per Statement, December 31, 1938	\$3,131.93
Less Outstanding Check, No. 216, Allen's Letter Service	3.00
Balance per Books, Dec. 31, 1938	\$3,128.93
Third National Bank	
Balance per Statement, December 31, 1938	\$ 394.69
No Outstanding Checks	
Balance per Books, Dec. 31, 1938	\$ 394.69
Cash Balance in Banks, Dec. 31, 1938, Exhibit "A"	\$3,523.62

SCHEDULE A-2**Statement of Receipts by Months for the Year Ended December 31, 1938**

Month	Total	Dues	Interest on Investments	Principal on Investments	Advertising	Exhibit Space	Subscriptions and Extra Copies of Journal	Cuts	Medical Defense	Refunds and Miscellaneous
January	\$ 3,286.63	\$2,910.00	\$	\$	\$ 317.13	\$ 40.00	\$ 2.00	\$17.50	\$	\$
February	2,756.63	2,334.00			380.43	40.00	1.20			1.00
March	2,156.52	1,584.00			439.52	80.00	2.00			1.00
April	1,693.66	816.00			290.02	560.00	.90		25.64	2.00
May	1,130.37	450.00	245.70		365.32	61.45	7.00			
June	488.96	114.00	56.25		304.71			10.00		4.00
July	556.60	42.00			514.60					
August	393.51	66.00			325.91		.60			
September	365.61	96.00			238.61					31.00
October	821.30	60.00	165.31	206.19	389.80					
November	333.25	30.00			301.25		2.00			
December	1,543.54	762.00	56.25		721.11		4.18			
Totals	\$15,526.58	\$9,264.00	\$523.51	\$206.19	\$4,639.41	\$781.45	\$19.88	\$27.50	\$25.64	\$39.00

SCHEDULE A-3**Statement of General Funds for the Year Ended
December 31, 1938**

Balance, January 1, 1938	\$ 3,672.75
RECEIPTS	
Dues	\$9,264.00
Interest on Invested Funds	523.51
Payments on Principal of Investments	206.19
Advertising	4,639.41
Exhibit Space	781.45
Subscriptions and Extra Copies of Journal	19.88
Costs	27.50
Medical Defense	25.84
Refunds and Miscellaneous	39.00
Total—Exhibit "A"	\$15,626.58
Balance	\$19,199.33
DISBURSEMENTS	
Medical Journal:	
Printing	\$3,344.00
Inserts	7.50
Extra Copies	330.25
Indices	68.00
Roster	70.00
Copyright	26.00
Mailing	319.75
Tabular Matter	26.00
Total Exhibit "A"	\$ 4,182.50
Convention Expense:	
Signs	\$ 19.90
Badges	45.00
Hotel	77.30
Reporting Service	502.59
Programs, etc.	191.98
Miscellaneous	84.00
Total Exhibit "A"	\$ 900.77
Salaries:	
Dr. H. H. Shoulders	\$1,500.00
Dr. William M. Hardy	1,800.00
Miss Willard Batey	1,500.00
Mrs. Ethel Harrison	936.00
Total Exhibit "A"	\$ 5,736.00
Board of Trustees:	
Miscellaneous Travel—Exhibit "A"	\$ 23.50
Medical Education Committee:	
Postgraduate Instruction	\$1,543.76
Travel	263.80
Total Exhibit "A"	\$ 1,807.56
Investment:	
Additional Funds placed First Mortgage Company—Exhibit "A"	\$ 450.00
Returned Checks—Exhibit "A"	29.22
General Expense and Other Disbursements:	
Postage	\$ 200.00
Office Expense and Supplies	419.31
Rent	513.60
Lights	20.32
Telephone and Telegraph	204.52
Letter Service	29.25
Social Security Taxes (Net)	37.76
Towel Service	12.00
Charts, etc.	10.00
Bond on Treasurer	25.00
Rent on Safety Deposit Box	3.00
Travel	611.55
Audit	65.00
Cuts and Reprints	361.85
Refunds and Miscellaneous	33.00
Total Exhibit "A"	\$ 2,546.16
Total Disbursements Exhibit "A"	\$15,675.71
Balance in General Fund December 31, 1938, Schedule A-1	\$ 3,523.62

SCHEDULE A-4**Investments December 31, 1938**

First Mortgage Real Estate Notes:			
Maker	Dated	Due	Amount
J. E. Horn	6-1-32	6-1-40	\$ 1,893.81
General Securities Company	4-1-36	5-1-41	1,400.00

Anna Mary Bransford	7-2-37	10-1-47	2,550.00
A. D. Talley	7-1-36	4-1-41	1,300.00
Louise Shields	9-1-36	10-1-46	1,300.00
Total			\$ 8,443.81

Bonds:			
\$3,000.00 Par. H.O.L.C. 2½'s, Aug. 1, 1949/39			\$3,090.00
1,000.00 Par H.O.L.C. 3's, May 1, 1952/44			1,010.00
Total			\$4,121.00

Total Investments	\$12,564.81
Cash Available for Investment on Deposit with the First Mortgage Company	
	\$ 639.70

This report was referred to the Committee on Reports of Officers.

Dr. C. M. Hamilton then read his report as Chairman of the Board of Trustees.

REPORT OF THE CHAIRMAN OF BOARD OF TRUSTEES

There was only one official meeting of the Board of Trustees in 1938. The post-convention assembly was held in Noel Hotel, April 14, 1938.

The following members were in attendance: C. M. Hamilton, Chairman; A. F. Cooper, Franklin B. Bogart, E. R. Zemp, George C. Williamson, H. H. Shoulders.

The House of Delegates had taken action authorizing the Secretary, Assistant Secretary, and the Board of Trustees to revise the constitution and by-laws of the State Association and to file application for a charter. The Board of Trustees instructed the Secretary to have copies of a skeleton revision of the constitution and by-laws drawn up and mailed to each member of the Board for consideration and adoption at a subsequent meeting. It was also decided that the appointment of committee members should be postponed to a future date. However, the appointment of the Committee on Postgraduate Instructions in Pediatrics was considered urgent in order that plans might be formulated as early as possible. Drs. James R. Reinberger, Franklin B. Bogart, J. O. Manier, and W. L. Williamson were selected for this important committee.

The subsequent meeting was called May 29, 1938, but sufficient members for a quorum were not present and an informal discussion of the constitution and by-laws was held by Secretary Shoulders, Assistant Secretary Hardy, Drs. Franklin Bogart, and C. M. Hamilton. Dr. A. F. Cooper had furnished a detailed and helpful analysis of the constitution and by-laws and made many valuable suggestions in a communication to the chairman. A tentative draft of the constitution and by-laws was decided upon and submitted to the various members of the Board of Trustees by mail and was ultimately adopted. Copies have appeared in a recent issue of the JOURNAL and reprints are available to the membership.

It was necessary that the application for a charter be accompanied with a copy of the constitution and by-laws and consequently this procedure was delayed in order that an up-to-date copy could be obtained. The application at the present time is

being passed through the proper channels and will doubtless be executed shortly.

The appointment of the standing committees was made in accordance with the provisions laid down in the newly-adopted by-laws by communication.

A special meeting of the House of Delegates was called September 4, 1938, and action was taken to authorize the Board of Trustees to nominate three members from each grand division of the state to be submitted to the Governor for appointment in vacancies in the State Board of Health. Three vacancies had occurred in 1938—one from each grand division. One was the result of the resignation of Dr. Ayers and the other two were due to expiration of regular terms. Two vacancies, one in Middle Tennessee and one in East Tennessee, were to be filled for the first of 1939.

The following nominations were made by communication:

For 1938—East Tennessee, Drs. W. K. Vance, Frank Harris, and Kyle Copenhaver; Middle Tennessee, Drs. John M. Lee, J. O. Manier, and J. P. Gilbert; West Tennessee, Drs. W. B. Key, H. B. Everett, and J. G. Blue. Those appointed were: Drs. W. K. Vance from East Tennessee, J. M. Lee from Middle Tennessee, and W. B. Key from West Tennessee.

The nominations for vacancies in 1939 were—East Tennessee, Drs. C. P. Fox, Sr., deceased; Tom Phillips, and R. C. Kimbrough; Middle Tennessee, Drs. E. M. Fuqua, J. H. Jones, and R. B. Gaston.

The regular fall semiannual meeting was never called. There was no urgent need for a meeting at that time, since most of the important transactions had been executed by mail or by telephone.

Respectfully submitted,

C. M. HAMILTON, Chairman.

This report was referred by Speaker Zemp to the Committee on Reports of Officers.

The report of the Secretary-Editor was read by Dr. H. H. Shoulders.

REPORT OF THE SECRETARY-EDITOR FOR THE CALENDAR YEAR 1938

I have the honor to submit herewith a report of the activities of the headquarters office for the year 1938.

Membership

The membership of the Association is being maintained at a fairly constant level—at approximately 1,650 members to year.

You will recall that an extended report was made last year on this question of membership. A statistical report of the ratio between members and nonmembers was made; also a comparison of this statistical report with other states was made.

It will be remembered that the number of members in proportion to the total number of doctors in the state was very favorable as compared with the same figures for other states.

Local Societies

There are fifty-eight (58) local societies and

there are sixty-nine (69) counties organized into these societies.

There are twenty-six (26) counties not organized.

From the best information we can get from counselors and from correspondence, a majority of the doctors who are eligible for membership in the State Association, and who practice in these unorganized counties, hold membership in adjacent organized counties.

There are twenty-three (23) counties with a membership of ten or below.

While it is true that the number of members in a local society is not the only factor affecting its usefulness as a society, it nevertheless is true that when counties are combined to create a membership of twenty-five to thirty, the attendance and interest are greatly improved.

We appreciate very fully the fact that this is not a matter that can be pressed either by counselors or by the headquarters office. It is a matter to be encouraged on every occasion possible.

I am perfectly convinced that most every doctor in the state would rather drive a distance of thirty or forty miles on a good road to attend a medical society with a good scientific program than to walk across the street to attend a medical society with a relatively poor scientific program.

Colored Physicians

I deem it appropriate to bring to your attention a situation not touched upon in previous reports. It relates to the matter of colored physicians in the state. As you know, we have several hundred in practice. In addition to this, we have an A grade medical school for colored students, graduating a class each year. All these graduates, of course, do not locate in Tennessee, but the number of colored physicians is increasing. None of these are eligible to membership in the Tennessee State Medical Association. This situation, of course, affects our membership adversely, but this is not the main point. The facts are that these physicians cannot become members of the American Medical Association except through membership in the State Association.

In several states, principally in the North, colored physicians are members of the state associations.

Colored physicians are organized into what is known as the National Medical Association.

Last year political influences, with headquarters in Washington, made a strong attempt to play on the prejudice of the colored physicians and secure their support of the National Health Program as then proposed. These colored physicians decided to remain loyal to the principles of the American Medical Association.

Three members of the National Medical Association addressed the extraordinary session of the House of Delegates of the American Medical Association last September on this very question. At the same time, they requested consideration of their problems.

I do not raise this question for the purpose of

making recommendations as to the actions which should be taken now. I raise the question for the purpose of introducing you to the fact that a problem does exist which deserves very careful consideration on the part of this House of Delegates.

Journal

Twelve issues of the JOURNAL were issued and mailed on time. These twelve issues contained a total of sixty scientific papers on a wide variety of subjects. In addition, the JOURNAL contained abstracts on a still wider variety of subjects; news items of interest to our readers; editorials on topics of current interest, etc.

We have opportunity to compare our JOURNAL with the journals from other states and we have the feeling that it is the best state publication there is with the exception of those states which have a large circulation.

Finances of the Association

The financial condition of the Association is portrayed in the report of an audit submitted by the Treasurer. Brief reference will be made to it.

It will suffice to say that the Association is living within its income, notwithstanding an enormous increase in the activities of the Association.

We have remained in a sound financial condition throughout the period of the depression and the recession.

No one who is unfamiliar with the duties of the office under the conditions that existed ten years ago can appreciate the enormous increase in the work of the office at the present time.

Many things have happened to keep the profession in a state of agitation. Many movements of a threatening character have been inaugurated. These have made it necessary for us to keep informed and in turn to endeavor to keep the membership informed. This we have tried to do, and we believe our efforts have been effective.

We wish to acknowledge the hearty cooperation of all the officers of the Association and the membership.

We do not believe there was ever a time when the profession was more alert and active and more united. These are vital necessities if we are to retain the status of a profession and hand down to those who will come after us the traditions of a great profession.

Respectfully,

H. H. SHOULDERS, Secretary-Editor.

April 11, 1939.

This report was referred to the Committee on Reports of Officers.

COMMITTEE ON SCIENTIFIC WORK

Dr. H. H. Shoulders, as Chairman of the Committee on Scientific Work, submitted a program of this session as evidence of the Committee's activity.

Upon the call of Speaker Zemp, Dr. W. S. Rude submitted the report of the State Tuberculosis Commission.

REPORT OF TUBERCULOSIS COMMITTEE

This committee has been active during the year. During the latter part of 1938 this committee communicated with the secretaries of all of the county medical societies, requesting that 1939 programs of local societies be arranged so that during the year at least one meeting be devoted to the discussion of tuberculosis. Practically every county society agreed to this request and advised this committee that programs have been arranged accordingly.

This committee, in cooperation with the State Commissioner of Public Health, the Tennessee Public Health Council, and the State Tuberculosis Association, was active in drafting and securing the passage of a legislative bill to provide state aid to the counties in the hospitalization of indigent persons sick with tuberculosis. This bill as passed by the General Assembly appropriated \$100,000 to match federal, county, and other funds fifty-fifty for the maintenance of indigent persons sick with tuberculosis in existing hospitals. The small but constant yearly decrease in our death rate from tuberculosis is gratifying, but this committee feels that further substantial reductions can be made by urging that certain minimal standards be adopted for teaching the subject of tuberculosis in our medical schools and by the public being awakened to the necessity of early diagnosis.

W. S. RUDE, Chairman.

This report was referred to the Committee on Reports of Committees.

Speaker Zemp then called for the report of the Hospital Committee.

DR. E. G. WOOD: Mr. Speaker and Members of the House: You will pardon me for the length of this, but the Hospital Committee has been rather active since the special session last September.

This is the report of the Joint Committee on Hospital Service to the Tennessee State Medical Association and the Tennessee Hospital Association.

Dr. Wood read the report.

REPORT OF JOINT COMMITTEE ON HOSPITAL SERVICE

To the Tennessee State Medical Association and the Tennessee Hospital Association

At its special session in Nashville last September the Tennessee State Medical Association approved a proposal submitted by Dr. C. F. N. Schram, delegate from Sullivan County, that a committee be appointed to cooperate with a like committee representing the hospitals of the state in investigating and formulating recommendations in respect to group hospitalization plans, and President Tom R. Barry subsequently designated the Hospital Committee to act in behalf of the Medical Association. The Council on Hospital Service previously appointed by President V. R. Bottomley was authorized by him to represent the Tennessee Hospital Association, an authorization later officially approved by the trustees of the Association. To the Hospital Committee were added the ex-officio memberships of

the President and Executive Secretary of the Medical Association, and the Hospital Service Council included the President of the Hospital Association, making a group of twelve. At one of their early meetings the group was organized into a Joint Committee on Hospital Service, and a chairman and secretary were elected. The purpose of the Joint Committee, as stated by the Chairman, is "the consideration of group hospitalization and hospital service plans with the view of recommending suitable legislation and further health protection for the people of Tennessee."

In attempting to discharge these considerable responsibilities, the Joint Committee agreed upon a program of consultation and work which has necessitated six meetings of all or part of the members held in Knoxville on October 12, December 7 and 11, 1938, and March 20, 1939, and in Nashville on November 13, 1938, and January 20, 1939. These activities were supplemented by correspondence and numerous informal conferences, they were reviewed and approved by the trustees of the Hospital Association in January, and thereafter they were carried over into the larger arena of political action under the energetic direction of Mr. C. P. Connell of Nashville.

This foray into politics was necessitated by the prompt agreement of the Joint Committee that its most immediate task lay in the field of legislation. The reasons for this decision are similar to those which have impelled hospitals in other states to seek and secure the protection of special statutes favoring their service associations: First, there is inevitable confusion as to whether the laws of Tennessee refer directly to contractual relationships whereby the hospitals may offer and the public subscribe for prepaid hospital services; so that, unless a case arises for court interpretation, service plans are subject to more or less arbitrary administrative rulings, as in Virginia, where, under a rather far-fetched application of the Securities Law, hospital service contracts are declared to be securities and governed by the law designed to check fraudulent sales of blue-sky and wildcat stocks. Second, it is generally held that, since they are based upon insurance principles and are intended to reach a fair proportion of the public with correspondingly heavy obligations in the trusteeship of funds committed to their keeping, the nonprofit service plans should be supervised by the state in the public interest; but a provision of the Tennessee laws, said to have been passed at the instigation of the burial societies, apparently exempts them from such supervision. Third, in the absence of definite assumption of responsibility by the state for this supervision, the field lies open for exploitation in unsound schemes of uninformed, irresponsible or get-rich-quick promoters. Fourth, lack of definite legal status is a primary cause of the low estate of nonprofit service plans in Tennessee, where only one plan, and that one quite small in membership, has been approved by the American Hospital Associa-

tion. Fifth, already in many cities of Tennessee a program which elsewhere throughout the nation is looked upon as a logical and desirable projection and extension of hospital facilities is being seized upon by commercial casualty companies, some of them of none too good repute; although theirs is the motive of cashing in on the popularity of group hospitalization, the hospitals intend to interpose no barrier to their operations, but they do need the opportunity of favorable legislation to develop their own program.

The Joint Committee, therefore, addressed itself to the task of reviewing legislation of other states governing hospital service plans organized on a nonprofit basis and in conformity with the principles approved by the American Medical Association, the American College of Surgeons, and the American Hospital Association. The laws of New York and Maryland are accepted as most favorable for the development of the nonprofit plans, and these, with the special enabling act suggested by the American Hospital Association, were used as models of three additional drafts adapting their provisions to Tennessee conditions. From these another draft was drawn which was widely distributed in order to obtain suggestions from every interested source. All such suggestions were used in another revision of the bill, which was then approved separately by the Joint Committee and the trustees of the Hospital Association and delivered to the legislative committees of the two associations for submission to the legislature.

In the latter part of February the bill was introduced in the legislature as House Bill No. 997 by Dr. W. H. Stallings, representative from Crockett County, who had participated in the Joint Committee meeting when the bill was approved. He stood stanchly, as did others, in support of the bill during the rest of the session, but it was never called up for consideration by the Committee on Insurance and Banking. This failure was due to the attitude of officials who would have been charged with the duty of regulating the service plans. In their conception a hospital service plan, at least under certain conditions, is essentially insurance, and to confer upon it the special status desired by the Joint Committee and recognized in other states is not compatible with their idea of the safeguards with which the state should surround every insurance operation.

The Joint Committee stands upon the position that the hospital service plans are fundamentally charitable and humanitarian enterprises for the general welfare. While their actuarial basis is the same law of averages underlying all forms of insurance, the plans differ in purpose and in organization for ordinary insurance. Four differences are readily revealed: first, the assumption of liability and guarantee of service by the hospitals rather than by stockholders or policyholders as in insurance companies; second, payment of benefits in service instead of cash indemnities; third, the need

and inevitability of extension of nonprofit hospital service to make hospital facilities more readily available to some people denied access by the barrier of expense and enable hospitals to collect from patients whom they carry now as a risk since they render them service without pay; and fourth, the discarding of red tape in respect to enrollment examinations, strict inquiry into existing disabilities, admission of patients, and disallowance of benefits after medical examination, procedures which have been established in the realization that the strength of the plans rests upon public good will resulting from beneficial operation rather than upon accumulations of cash.

The Joint Committee holds with the practically unanimous opinion of representatives of the approved service plans that any acceptance of the attitude and terminology of insurance operations is not only harmful to the plans, but contradictory in that, while many hospital service corporations are regulated by insurance departments, the regulatory powers were conferred in most states by enabling legislation which established the special status of the plans as quite different from insurance. Furthermore, the American Hospital Association has officially reported its ruling to approve no other service plan organized as a mutual insurance company in addition to the two such California companies already approved, and its detection of a growing tendency among the states to place upon welfare rather than insurance departments the responsibility of supervising service plans.

As the Joint Committee has expended its efforts upon the temporarily futile effort to secure the passage of legislation, it has had only incidental opportunities to consider its second objective of recommending methods for the development of this form of health protection in Tennessee. It is, therefore, constrained to limit its present proposals to the following recommendations:

1. That the Joint Committee be continued as the designated agency of the State Medical and Hospital Associations to represent them in attempting to secure suitable legislation as well as the understanding and acceptance of the service plan movement which must precede encouraging progress in Tennessee.

2. That the proposed bill, copies of which are available here and now for distribution to any interested member of either Association, be revised in the light of all criticisms and comments that can be obtained, and that it be distributed to every local medical society and every registered hospital in Tennessee prior to the next annual meetings of the Associations, when it will be thoroughly discussed in preparation for submitting it with united backing to the next session of the legislature.

3. That the Joint Committee be assigned the responsibility of helping in the development of

emergent plans, in cooperation with the Committee on Hospital Service of the American Hospital Association and in conformity with its "Standards" for nonprofit service plans.

4. That it be emphasized to interested communities, hospitals, and medical societies that the lack of new legislation should not prevent progressive and effective steps toward providing the public with protection against the unpredictable and burdensome expense of hospitalization. Section 6421 of Article IX, Chapter 6 of the 1938 Code of Tennessee reads: "Nothing contained in this article shall be construed to affect or apply to . . . domestic lodges, orders or associations of a purely religious, charitable, and beneficiary description, which do not provide for . . . disability benefits of more than \$150.00 to any one person in any one year." Under this exemption service plans are operating and apparently can operate indefinitely in Tennessee. In every case of a new enterprise the question of legal status should be ruled upon by a competent attorney who is prepared to defend his position in the courts.

5. That every effort should be made to impress upon the hospitals the desirability of contracting to render the service which they alone can provide with no organization other than the approved nonprofit service association in whose organization they participate and on whose governing board they are adequately represented. It is obviously illogical that the nonprofit service of hospitals, ninety-five per cent of whose beds throughout America have been provided by the public through taxation or philanthropy, should be disposed of for a third party's profit.

6. That the Joint Committee be instructed to urge united action on the part of physicians and hospital executives in establishing the nonprofit service plan as an inevitable extension of the hospitals' usefulness, a demonstrated success in all its business relationships, and a benevolent enterprise worthy of the support of the whole community because of the benefits it confers alike upon the people, the employer, the physician, and the hospital. In furtherance of this aim the Joint Committee is instructed to bring its cause to the attention of interested groups whenever possible, thus carrying forward the program of public information which during recent months has gained for nonprofit service plans the consideration and expressed approval of such organizations as the Citizens' Advisory Committee on Public Welfare, the Tennessee Industrial Personnel Conference, and the Tennessee Conference of Social Work.

7. That, if funds are available, the Joint Committee be allowed an appropriation of \$100 for the next year, \$50 from each Association, to meet some of its necessary expenses of stationery, postage, printing, and travel, which up to this time and

in the amount of a considerable sum have been borne by members personally.

April 4, 1939.

E. G. WOOD, M.D., Chairman.
 GEORGE W. EUTSLER, Secretary.
 E. H. BAIRD, M.D.
 TOM R. BARRY, M.D.
 V. R. BOTTOMLEY.
 R. R. BROWN, M.D.
 C. P. CONNELL.
 J. H. FRANCIS, M.D.
 LEE K. GIBSON, M.D.
 H. L. MALONEY.
 H. H. SHOULDERS, M.D.
 S. J. SULLIVAN, M.D.

Joint Committee on Hospital Service.

Nonprofit Hospital Service Plan Act

AN ACT to authorize and regulate Nonprofit Hospital Service Corporations under the supervision of the Commissioner of Insurance and Banking.

Section 1. Purpose. *Be it enacted by the General Assembly of the State of Tennessee*, That it is the intent and purpose of this Act to remove hospital care from the class of economic hazards and to make it a purchasable service to be financed as insurance is now financed. *It is not the intent or purpose of this Act in any way to interfere with, or regulate, the relationship between a physician or surgeon and his patient or to interfere with, or regulate, the relationship between a physician or surgeon and a hospital.*

Section 2. Nonprofit Hospital Service Plans. *Be it further enacted*, That any corporation without capital stock heretofore or hereafter organized under the provisions of Chapter 8, Title 9, Part 1, of the 1932 Revised Code of Tennessee, may establish, maintain and operate a Nonprofit Hospital Service Plan whereby hospital service may be provided by one or more hospitals of accepted standards and reputation to persons who become subscribers to such plan under a contract which entitles each subscriber to certain hospital service, the nature of which shall be specifically set forth in each contract offered for sale. Such corporations shall be governed and regulated by the provisions of this Act, and by no other law relating to insurance unless such law is referred to herein. Any nonprofit organization heretofore chartered in the State of Tennessee may maintain and operate in its own hospital a Hospital Service Plan conforming to the requirements of this Act. The phrase "hospital of accepted standards and reputation" shall be construed to mean: (1) those appearing in the latest published list of hospitals registered by the American Medical Association, or (2) those approved by the American College of Surgeons.

Section 3. License. *Be it further enacted*, That no corporation subject to the provisions of this Act shall issue contracts for the rendering of hospital service to subscribers until the Commissioner of Insurance and Banking has, by formal certificate

or license, authorized it to do so. Application for such certificate of authority or license shall be made on forms to be supplied by the Commissioner of Insurance and Banking, containing the following information, duly certified to by the president and secretary of such corporation:

- (a) Certificate of Incorporation, with all amendments thereto;
- (b) By-laws, with all amendments thereto;
- (c) A list of the directors of the corporation showing the name, address, and length of residence of each director in the community;
- (d) A list of the participating hospitals in which the subscribers shall be entitled, at their election, to hospital care;
- (e) Each form of contract executed or proposed to be executed by and between the corporation and any hospital qualified as hereinabove stated, embodying the terms under which hospital service is to be furnished to subscribers to the plan;
- (f) Each form of contract issued or proposed to be issued to subscribers to the plan, together with a table of the rates charged, or proposed to be charged, to subscribers for each form of such contract;
- (g) Financial statement of the corporation, which shall include the amounts of each contribution, whether gift, loan, or service agreement, paid or agreed to be paid, to the corporation for working capital, the name or names of each contributor and the terms of each contribution, a statement of expenses incurred and estimates of expenses to be incurred during the initial period of organization until subscribers' contracts first become effective and for six months after subscribers' contracts first become effective.

The Commissioner of Insurance and Banking shall issue a certificate of authority, or license, to each applicant upon the payment of a fee of ten dollars (\$10), and upon satisfactory evidence:

- (1) That the applicant has been organized bona fide for the purpose of establishing, maintaining, and operating a Nonprofit Hospital Service Plan;
- (2) That opportunity has been given for all hospitals of accepted standards and reputation to become participating hospitals in the Hospital Service Plan, and that subscribers shall have free choice of any participating hospital at the time of sickness or injury;
- (3) That the applicant has resources of working capital in sufficient amount, and contracts with a sufficient number of participating hospitals, to assure reasonable expectation of successful operation;
- (4) That each contract executed, or proposed to be executed, by the applicant and any hospital for the furnishing of hospital service to the subscribers to the Hospital Service Plan obligates, or will, when executed, ob-

ligate each hospital party thereto to render the service to which each subscriber may be entitled under the terms and conditions of the various contracts issued, or proposed to be issued, by the applicant to subscribers to the plan;

- (5) That each contract executed, or proposed to be executed, by and between the corporation and any hospital, shall provide for sufficient payments to reimburse the hospital properly for the services rendered to subscribers, these payments to all participating hospitals to be made at uniform rates;
- (6) That each contract issued, or proposed to be issued, to subscribers to the plan is in a form approved by the Commissioner of Insurance and Banking and that the rates charged, or proposed to be charged, for each form of such contract are fair and reasonable;
- (7) That no contributions to the funds of the corporation for working and beginning capital are repayable by the corporation except out of earned premiums over and above operating expenses, payments to participating hospitals and such reserve as the Commissioner of Insurance and Banking may deem adequate; no further payments are to be made by the corporation out of earned premiums and reserves after said advancements to corporation for working and beginning capital have been repaid or refunded, the earnings of the corporation thereafter to accumulate and increase the services to be rendered to those holding contracts with the corporation for hospital service under the plan, or said earnings shall be used to extend time of payment of the premiums of those having contracts with the corporation for hospital service under the plan, to an extent equal to the surplus less a reserve of such amount as may be deemed necessary by the Board of Directors, subject to the approval of the Commissioner of Insurance and Banking, to provide for contingent expenses;
- (8) That the amount of money actually received by the applicant upon the terms specified in subsection "(7)" hereof, for working and beginning capital, is sufficient to carry all acquisition costs and operating expenses for a period of at least three months from the date of the issuance of the certificate of authority or license;
- (9) That the treasurer or any other officers or agents of the corporation handling funds of the corporation are required to give fidelity bonds indemnifying the corporation in such sums as may be determined by the Board of Directors of the corporation and approved by the Commissioner of Insurance and Banking.

Such certificate of authority or license shall be effective until revoked by the Commissioner of

Insurance and Banking as hereinafter provided, and any corporation to which such certificate of authority or license has been issued, until revocation thereof, shall be authorized to issue contracts, in the form or forms filed with the Commissioner of Insurance and Banking, to the persons who may become subscribers to such plan.

Section 4. Approval by Commissioner. *Be it further enacted*, That no corporation subject to the provisions of this Act shall amend its Certificate of Incorporation, its by-laws, the terms and provisions of contracts executed or to be executed with hospitals and the terms and provisions of contracts issued, or proposed to be issued, to subscribers to the plan until such proposed amendments have been first submitted to, and approved by, the Commissioner of Insurance and Banking; nor shall any change be made in the table of rates charged, or proposed to be charged, to subscribers for any form of contract issued or to be issued for hospital care until such proposed change has been submitted to, and approved by, the Commissioner of Insurance and Banking. Upon the adoption of any such amendment or change, following its approval by the Commissioner of Insurance and Banking, such corporation shall file a copy thereof with the Commissioner of Insurance and Banking, duly certified to by the president and secretary of such corporation.

Section 5. Finance Procedure. *Be it further enacted*. That no corporation subject to the provisions of this Act shall make any payment to a hospital for the care of a subscriber until after said hospital has rendered such care.

Section 6. Annual Statement. *Be it further enacted*, That every corporation subject to the provisions of this Act shall keep complete books and records, showing all funds collected and disbursed, and shall annually, on or before the first day of May, file in the office of the Commissioner of Insurance and Banking a statement certified to by an independent certified public accountant, showing its condition on the thirty-first day of December then next preceding, which shall be in such form and shall contain such matters as the Commissioner of Insurance and Banking shall prescribe, including a list of salaries and other compensation paid to employees; the amounts of total income and of earned income received from subscribers and apportioned to special accounts for payments to hospitals, for acquisition costs, for general administration, and for reserves; a report of hospital experience including number of subscribers, number of hospital admissions, and number of patient days of care; and a list of participating hospitals.

Section 7. Examination. *Be it further enacted*, That the Commissioner of Insurance and Banking, or any examiner or examiners of the Division of Insurance, shall have the power of visitation and examination into the affairs of any such corporation and free access to all of the books, papers, and documents relating to the business of the corpora-

tion, and may summon and examine under oath its officers, agents, or employees, or other persons, in relation to the affairs, transactions, and conditions of the corporation.

Section 8. Investments. *Be it further enacted*, That every corporation subject to the provisions of this Act may invest its funds only in securities permitted by the laws of this state for the investment of the assets of life insurance companies.

Section 9. Revocation of License. *Be it further enacted*, That whenever the Commissioner of Insurance and Banking shall have reason to believe that any corporation subject to the provisions of this Act is being operated for profit or fraudulently conducted, or is not complying with the provisions of this Act, he shall be authorized to serve notice upon the corporation by mailing to it at its last known address at least five days before the time set for trial a copy of the charges preferred against it, together with a notice of the time and place at which the Commissioner will consider such charges. The corporation shall have power to attend in person or by counsel and to introduce such testimony as it may desire in connection with such charges. All testimony introduced at such hearing shall be reduced to writing at the time. After full and complete hearing, the Commissioner of Insurance and Banking may revoke said license or may dismiss the charges as in his opinion the justice of the situation requires. The decision of the Commissioner of Insurance and Banking shall be subject to review upon its merits by certiorari as provided in Section 9008, et seq. of the Code of 1932.

Section 10. Penalties. *Be it further enacted*, That any person or corporation engaging in the business of operating Nonprofit Hospital Service Plans without first having procured a license from the Commissioner of Insurance and Banking, as required by this Act, and any person or corporation violating any provisions of any section of this Act, shall be deemed guilty of a misdemeanor and shall be subject to a fine of not less than One Hundred Dollars (\$100) or more than One Thousand Dollars (\$1,000) for each and every offense; provided, however, that all hospitals or corporations now operating a Nonprofit Hospital Service Plan within the purview of this Act shall not be subject to penalties until a reasonable period of not more than twelve months has elapsed in which they may adjust their affairs and comply with the requirements and provisions of this Act. Any person making any willfully false statement in any written document required by any section of this Act to be filed with the Commissioner of Insurance and Banking, or while under oath administered by the Commissioner or any examiner at any investigation or hearing conducted by said Commissioner of Insurance and Banking or examiner, shall be deemed to be guilty of perjury and shall be proceeded against and punished as provided by the statutes of this state in relation to the crime of perjury.

Section 11. Exempt from Taxation. *Be it further enacted*, That every corporation licensed under the provisions of this Act is hereby declared to be a charitable and benevolent institution, and its funds and property shall be exempt from all and every state, county, district, and municipal tax.

Section 12. Separability Clause. *Be it further enacted*, That if any section of this Act, or any part thereof, be decided by the courts to be unconstitutional or invalid, the same shall not affect the Act as a whole, nor any part thereof, other than the part so decided to be unconstitutional or invalid.

Section 13. *And be it further enacted*, That this Act take effect from and after its passage, the public welfare requiring it.

This bill was prepared by the Joint Committee on Hospital Service representing the Tennessee State Medical Association and the Tennessee Hospital Association. In separate meetings at Nashville, it was approved by the trustees of the Tennessee Hospital Association on January 19 and by the Joint Committee on January 20. As House Bill No. 997 it was introduced in the legislature by Dr. W. H. Stallings, representative from Crockett County, but it was not called up for consideration by a committee or for vote by the House.

DR. E. H. BAIRD, Dyersburg.
DR. TOM R. BARRY, Knoxville.
V. R. BOTTOMLEY, Greeneville.
DR. R. R. BROWN, Nashville.
C. P. CONNELL, Nashville.
DR. J. H. FRANCIS, Memphis.
DR. LEE K. GIBSON, Johnson City.
H. L. MALONEY, Knoxville.
DR. H. H. SHOULDERS, Nashville.
DR. S. J. SULLIVAN, Cleveland.
DR. E. G. WOOD, Knoxville,
Chairman.
GEO. W. EUTSLER, Kingsport,
Secretary.

Joint Committee on Hospital Service.

THE SPEAKER: This will be referred to the Committee on Reports of Committees.

Committee on Public Policy and Legislation, Dr. Edwards.

REPORT OF COMMITTEE ON LEGISLATION AND PUBLIC RELATIONS

At the last meeting of this body the Committee on Legislation was instructed to sponsor and have enacted if possible certain legislation; namely, a so-called Basic Science Act, also an amendatory act to the present Medical Practice Act that would enable the Board of Medical Examiners to revoke the license of any physicians in the state who were guilty of certain violations, particularly as relates to the illegal traffic in narcotics.

A meeting of the committee was called July 17, 1938, with L. W. Edwards, H. H. Shoulders, H. B. Everett, Kyle Copenhaver present, to discuss the proposed legislation. Several matters of interest

were discussed at this meeting including the proposed bills mentioned above.

A resolution was adopted which instructed L. W. Edwards and H. H. Shoulders to confer with the attorney general of the state, Mr. Beeler, and prepare the draft of an amendment which would correct the defects of the present law.

The second question considered was that of a Basic Science Law. It was the opinion of the committee that a Basic Science Act should be sponsored.

The law regulating the qualifications of the examining board should provide that examiners be qualified to examine in the subjects and not be engaged in the practice of any form of the healing art.

The provisions in the Arkansas Act were read and were agreed to with one provision deleted, the one provision being that related to medical schools. The Arkansas Act provides that no member of the Examining Board may be connected with a medical school. The committee felt that teachers in the medical schools of this state who are not engaged in the practice of medicine would probably be better qualified to serve as examiners in the basic science subjects.

At this meeting the question was raised concerning the issuance of licenses to alien doctors. By resolutions the chairman of the committee and the secretary were directed to communicate with the Board of Medical Examiners and urge them to adopt and follow a policy of not issuing licenses to practice medicine in Tennessee to persons who are not American citizens. This resolution was communicated to the Board of Medical Examiners and the secretary of that board advised by letter that this policy was being carried out.

Several other legislative matters were discussed. One was concerning an amendment to the Compensation Laws. Another was the question of legislation to give hospitals a lien on judgments obtained in personal injury cases, with particular reference to automobile accidents with medical fees included. It was the decision of the committee that this legislation is being sponsored by the State Hospital Association and it would not be advisable to encumber this legislation with additional provisions concerning the medical fees at the present time.

In January of this year, after the legislature convened, Mr. Charles Cornelius was employed to draft the proposed laws to be presented by this committee. About this time it appeared that the Congress of the United States might appropriate certain funds to the states to be expended on medical care of the indigent sick. These funds to be allotted by the surgeon general of the United States Public Health Department to the Commissioners of Health in the various states who would be charged with the responsibility of rendering medical care to the indigent. This procedure would obviously place an extra burden on the State Health Department and would put this department in the

actual practice of medicine in caring for the indigent sick, which all agree is not a function of the Health Department.

This matter was discussed with the Commissioner of Health and various members of the State Council of Health. It was the opinion of members of the Health Department and this committee that some form of legislation should be enacted creating a division of medical care in the Health Department.

A called meeting of the Legislative Committee was then held by long-distance telephone hookups and it was agreed that this legislation should take precedent over the Basic Science Act in case all three bills could not be passed.

The three bills were drafted; namely, a Basic Science Act; an act enabling the Board of Medical Examiners to revoke licenses; and the bill creating a Medical Care Division of the Health Department.

After a conference with Governor Cooper, when the legislation was presented for his endorsement, it became evident that it would be unwise to introduce all three bills at this time because the administration was definitely loaded with its own legislation and the Liquor Bill was occupying the attention of the General Assembly to a large extent. Your committee then reports at this time two acts of interest to this body passed at the last session of the General Assembly; namely as follows:

House Bill No. 835, a bill to be entitled—"An Act to amend Section 6932 of the Code of Tennessee, relating to the revocation of licenses by the State Board of Medical Examiners, so as to provide the procedure to be followed by said Board, and to provide for court review of the action of the Board in revoking any license."

House Bill No. 836—"An Act to improve and regulate in a better manner the expenditure of funds appropriated by the General Assembly or available from allotment by the Federal Government, to the state, or from contributions from counties, cities, or other local units of government, or from other sources, for medical services of any sort, and to this end creating under the Department of Public Health a separate division, to be designated, 'Medical Care Division,' to prescribe the duties and powers of said 'Medical Care Division,' and to provide for the administrative personnel necessary in the expenditure of public funds for medical care or medical service, as such care and services are defined by this Act."

The Basic Science Act has been drafted, we think, in a most desirable form and sincerely predict its passage at the next session of the legislature. We furthermore believe that unless some emergency arises in the meantime that it would be wise not to attempt the passage of any other legislation at the time the Basic Science Act is introduced.

Respectfully submitted,

L. W. EDWARDS.
H. H. SHOULDERS.
H. B. EVERETT.

**SENATE BILL NO. 547, CHAPTER NO. 164,
PUBLIC ACTS, 1939**

AN ACT to provide for and regulate the sale of a certain drug or its derivatives in the State of Tennessee and provide the penalty for its violation.

Section 1. *Be it enacted by the General Assembly of the State of Tennessee,* That it shall be unlawful for any person, firm or corporation to sell, barter or give away any drug known as barbitol, as defined herein, except upon the written prescription of a duly licensed physician, dentist, or veterinarian, and compounded or dispensed by a duly registered pharmacist.

For the purpose of this Act the term "barbitol" shall be held to mean and include the salts of barbituric acid, also known as malonylurea, or any derivative or compounds or any preparations or mixtures thereof possessing hypnotic properties or effects.

It shall be exempted from the provisions of this Act the sale of barbitals by legitimate wholesale druggists to registered pharmacists and the sale by registered pharmacists to duly licensed physicians, dentists, and veterinarians.

The Board of Pharmacy of the State of Tennessee shall have the power to enforce this Act and shall make laws and regulations for its enforcement.

Section 2. *Be it further enacted,* That any person, firm or corporation selling, bartering, or giving away of any drug in violation of this Act shall be guilty of a misdemeanor and upon conviction shall be fined not less than \$25.00 nor more than \$50.00.

Section 3. *Be it further enacted,* That all laws and parts of laws in conflict with this Act be and the same are hereby repealed, and this Act shall take effect from and after its passage, the public welfare requiring it.

BLAN R. MAXWELL, Speaker of Senate.

JOHN ED O'DELL, Speaker of the House.

PRENTICE COOPER, Governor.

Approved March 7, 1939.

DR. EDWARDS: It has been the policy of this committee for some time not to take too much action in the legislature in opposing legislation that is being sponsored by other organizations. We realize that at times it appears that the committee perhaps ought to take more aggressive action in opposing certain legislation, but we have found from experience that it always handicapped our legislation and put us in a very bad predicament when we come to present our laws and try to get certain legislation passed.

For that reason, the members of the committee at Nashville, who have had to carry on most of the burden of this work, have not been as active, perhaps, as some might think we should be in opposing certain legislation. It is for that reason that we have not been so active.

THE SPEAKER: That will be referred to the Committee on Reports of Committees.

Now we will have the report of the Liaison Committee, Dr. W. C. Dixon.

DR. DIXON: Mr. Chairman, I feel a certain amount of embarrassment in presenting a puny report like this after these very complete reports that we have had. Some of you may recall there was a time when the Liaison Committee was pretty active, but in latter years there has not been much for us to do.

So, after some consideration, the House of Delegates put off on us the question of doing something about the treatment of syphilis; I don't know why, unless liaison is a French word that has a certain inference that probably the members of the House of Delegates thought we were probably the right people to handle it. Anyhow, in the last few years our activities have been more or less concerned with the question of syphilis.

As we understand it, our primary function is to act as a liaison between the profession and the State Department of Health. If questions arise where there are debatable points, we are supposed to be called in consultation and see if we can represent the profession in settling such questions.

REPORT OF LIAISON COMMITTEE

No complaint has been filed with the Liaison Committee during the past year, and no occasion has arisen that required a meeting.

Dr. Barry has cooperated in a series of meetings in East Tennessee on syphilis.

The State Commissioner of Health asked the committee's opinion on a booklet on the "Management of Syphilis." This booklet was available for free distribution to physicians in the state. After each member had examined the booklet, it was recommended for distribution.

A notice was published in the JOURNAL that a copy would be sent to any doctor on request. Only a few requests were received. Feeling that the booklet should have a wider distribution after consultation with the Commissioner, the Department of Health sent a copy to each member of the State Society.

W. C. DIXON.

THE SPEAKER: That will be referred to the Committee on Reports of Committees.

Insurance Committee, Dr. Cooper of Memphis.

Dr. Cooper read the report of the Insurance Committee.

REPORT OF INSURANCE COMMITTEE

The number of our members who have availed themselves of the advantages offered by our group accident and health policy is much smaller than it should be, though it is larger than it was. One hundred five policies are in force, but there should be several hundred. During the past year the company has paid to the members of our group a total of \$1,399.63 on seventeen claims, an average of

\$82.33 per claim. As far as our information goes the settlement of claims by the company has been prompt and satisfactory.

Mr. W. M. Tankard, who handles this insurance for the J. O. Tankard Agency of Nashville, states he expects to enroll more new additions to the group in the near future, having received fifty inquiries from members in response to a general letter sent out recently. He has advertised the plan in the State JOURNAL and expects to use that medium regularly. He has also sent letters and prospectuses to members at regular intervals and has made many personal calls throughout the state. These points are mentioned to show the company has an active representative, and that he is making very definite efforts to give our members ample opportunity to obtain this coverage.

When the average doctor becomes incapacitated by accident or illness his income stops. He may collect while disabled for what he did last month, but he will not collect anything next month for the period of his disability unless he has insurance for that purpose. And there are so many of us average doctors who really cannot afford to be without this protection. It is not a question of not being able to afford to pay for this kind of insurance. The question is can we afford to be *without* it? A Memphis physician lost a year from his work because of illness. The National Casualty Insurance Company of Detroit, which has both the Memphis and Shelby County and the state groups insured, paid him \$2,600 as a member of the first-named group. How many of us could afford to lose a year from our work?

The committee urges our members to give very serious consideration to this opportunity to protect themselves against loss of time and the consequent loss of income.

J. M. COOPER, Chairman.
C. M. HAMILTON.
S. R. MILLER.

Since this report was prepared, Mr. Tankard has written me that Friday and Saturday he took ten applications in Knoxville and Chattanooga for policies, and that four other claims are now pending.

THE SPEAKER: That will be referred to the Committee on Reports of Committees.

Committee on Medical Defense, Dr. S. R. Miller.

Dr. Miller read the report of the Committee on Medical Defense.

REPORT OF COMMITTEE ON MEDICAL DEFENSE

House of Delegates of the Tennessee State Medical Association:

Gentlemen:

The Medical Defense Committee begs to submit herewith our twenty-fifth annual report.

For three years we have been defendant for only one suit for malpractice against our members.

The plaintiff in this case was unable to get medical witnesses, and succeeded several times in postponing the trial, notwithstanding our counsel's best efforts to force the suit to trial.

When our counsel succeeded in preventing further postponement, nonsuit was taken by the plaintiff, and suit was refiled again before the end of the statutory year of limitation.

After one or more postponements again our counsel had an agreement with the plaintiff's counsel to not postpone the trial again, but the case would be tried in the next court term. Effort, however, was made again by the plaintiff to postpone the trial, and when the plaintiff failed in this, nonsuit was taken again in October, 1937.

I am glad to say that the case was not refiled within the year, which is now some months past, and cannot be refiled.

Thus the last suit of our Medical Defense work has ended.

The Treasurer has reported that our balance of \$445.55 has been transferred to the general fund, and if we estimate interest on this fund to date, it would probably amount to more than \$500.00.

Following our annual report from year to year, some of our members have seemed to think that the Medical Defense feature would wreck the Association's finances.

While our balance was comparatively small, we always claimed that we could probably wind up the work with a small balance, but this Committee and no one else could tell the exact amount of money that would be necessary to complete our work.

We have a large amount of records on file in a metal filing case in the Chairman's office which belong to this Association. It seems that there is no need of preserving these records longer, and we ask the House of Delegates to instruct the committee what disposition shall be made of these old records and the file case.

We also ask that the Medical Defense Committee be discharged.

Respectfully,

S. R. MILLER, Chairman.
H. B. EVERETT.
H. M. TIGERT.

The Speaker referred the report to the Committee on Reports of Committees and called for the Report of the Committee on Education.

Dr. J. Marsh Frere, Chattanooga, read the report.

REPORT OF COMMITTEE ON MEDICAL EDUCATION

Last year your Committee on Medical Education recommended to the House of Delegates a continuation of postgraduate medical education in Tennessee. We were all happy to learn that we are to have a course given in pediatrics, just as we had in obstetrics, and that this course has already been started in the first circuit.

We have contacted the various committees doing education work and herein report very briefly what they have done during the year.

I think Dr. J. R. Reinberger is due a vote of thanks by the entire membership of our State Society for the faithful and untiring work that he did as chairman of the Committee on Postgraduate Instruction in Obstetrics. Last year, just after our State Society meeting, I requested Dr. Reinberger to represent us at the meeting of the National Committee on Postgraduate Education, held during the meeting of the American Medical Association in San Francisco. He did so, and with credit, for a resolution was passed after his presentation, to the effect that in each year to come at the meeting of this committee, that one state obtain such information as has been reported by the State of Tennessee. A vote of thanks was extended to him.

Dr. J. R. Reinberger, chairman of Maternal Welfare Committee, is continuing the program of organizing lay organizations into districts. The motive being, as he states, to give impetus and direction to lay organizations who are interested in disseminating information for better maternal care as well as the information of rural prenatal clinics.

Dr. Frazier Binns, chairman of Child Welfare Committee, states that members of his committee were requested to offer suggestions for the Postgraduate Instruction in Pediatrics, which they did. Several times during the year Dr. Binns discussed the problems of child welfare with Dr. John Lee and Dr. John M. Sanders.

Dr. W. S. Rude, chairman of State Tuberculosis Committee, sent out a request to each County Society last fall, requesting that one meeting during the year be devoted to the subject of tuberculosis or diseases of the chest. Dr. Rude states that practically every society in the state responded to this request.

Dr. Ralph H. Monger, chairman of Cancer Committee, advises that his committee has been functioning and that the campaign is well organized. They have educational organizations in almost every district and county and believe that interest will increase each year.

Dr. Cecil E. Newell, chairman of Industrial Hygiene Committee, the most recently appointed committee of our State Society, states that he attended the First Annual Congress on Industrial Health, which was held in Chicago, January 9 and 10, of this year. His committee has been in frequent touch and is cooperating with the American Medical Association's Committee on Industrial Health.

The Committee on Medical Education has continued to urge immunization against preventable diseases and to request that each County Medical Society have a separate program dealing with cancer, tuberculosis, syphilis, and other health matters. I might say here that we in Chattanooga are very fortunate in having a very active Health Council of the Chamber of Commerce. Since its organiza-

tion in the latter part of 1937, over sixty physicians have given addresses on health matters. It was organized to keep well people well.

Respectfully submitted,

J. MARSH FRERE, M.D., Chairman,
Chattanooga.

R. B. WOOD, M.D., Knoxville.

D. W. SMITH, M.D., Nashville.

H. B. GOTTEN, M.D., Memphis.

W. O. BAIRD, M.D., Henderson.

J. M. LEE, M.D., Nashville.

Committee on Medical Education.

THE SPEAKER: Referred to the Committee on Reports of Committee.

Committee on Memoirs, Dr. H. M. Tigert.

Dr. Tigert read the report of the Committee on Memoirs.

REPORT OF COMMITTEE ON MEMOIRS

The Tennessee State Medical Association, in regular session assembled, this April 11, 1939, hereby proclaims its great scientific loss and personal grief, experienced, because some of our members have joined the Great Physician. These are:

Gilbert T. Abernathy, Paris.

L. D. Allen, Smithville.

Ross E. Anderson, Memphis.

H. L. Berry, Memphis.

W. M. Bingham, Memphis.

W. T. Black, Memphis.

J. F. Campbell, Morristown.

W. L. Carden, Andersonville.

Lynn A. Carden, Pelham.

B. E. Delozier, Maryville.

E. B. Dickson, Coal Creek.

A. N. Doyle, Minor Hill.

Luther Edwards, Finley.

J. J. Ellis, Knoxville.

W. Scott Farmer, Nashville.

C. P. Fox, Greeneville.

J. Har Glover, Union City.

J. D. Hall, Readyville.

Harold D. Haney, Bolivar.

C. C. Hardison, Iron City.

H. A. Hart, Memphis.

M. G. Herrell, Powell Station.

G. P. Hicks, Bruceton.

H. J. High, Elmwood.

V. D. Holloway, Knoxville.

S. John House, Nashville.

J. L. Hoover, Murfreesboro.

J. F. Hunt, Tennessee City.

W. F. Huntsman, Lexington.

Eugene J. Johnson, Memphis.

A. G. Kern, Knoxville.

W. S. Lockert, Ashland City.

L. F. Loggins, Charlotte.

Frederick T. Massengill, Johnson City.

J. A. McCulloch, Maryville.

Fred C. McIsaacs, Chattanooga.

William P. Moore, College Grove.

G. G. Mulherin, Brownsville.
 S. M. Ryburn, Morristown.
 W. F. Smith, Decherd.
 J. W. Stevens, Nashville.
 J. W. Thomas, Springfield.
 H. R. Townsend, Oakville.
 W. R. Wallace, Memphis.
 E. E. Waller, Spring Creek.
 Garrett White, Chapel Hill.

The burden of death falls upon the living, not upon the dead, who but follow the path made by countless millions, in fulfilling eternal destiny, which is the common lot of man.

These men of medicine, who consecrated their lives on the high altar of science and lavish service to mankind, will pass among us no more, but sweet memories will linger and remain.

"Tis the human touch in this world that counts,
 The touch of your hand and mine,
 Which means far more to the fainting heart
 Than shelter and bread and wine.

"For shelter is gone when the night is o'er,
 And bread lasts only a day,
 But the touch of the hand, and the sound of the voice,
 Sings on in the soul always."

And so we commit these, who have unselfishly fought the valiant fight, to Him, who with infinite tenderness, mercy, and justice, will preserve them.

H. M. TIGERT, M.D., Chairman.
 Committee on Memoirs.

DR. NEWELL: Mr. Chairman, couldn't we stand for half a minute in tribute to those who have passed on, most of whom have been in this hall? I so move.

The motion was regularly seconded and carried, and the delegates stood in silent tribute to the departed members.

THE SPEAKER: Committee on Maternal Welfare, Dr. J. R. Reinberger, of Memphis, Chairman.

Dr. Reinberger read the joint report of the Committee on Postgraduate Instruction in Obstetrics and Committee on Maternal Welfare.

REPORT OF COMMITTEE ON POSTGRADUATE EDUCATION IN OBSTETRICS AND MATERNAL WELFARE COMMITTEE

The Committee on Postgraduate Education in Obstetrics and the Maternal Welfare Committee desires to render a joint report for the past year. This request is made for the reason that their duties are most intimately associated, because, through postgraduate work to the physician and the dissemination of such knowledge to the public, both are vitally interested in improving the welfare of the puerperal mother and baby.

The Committee of Postgraduate Instruction in Obstetrics held its final meeting in Nashville, December 4, 1938. The financial report from the Memphis office, a copy of the audit by W. A. Smith

& Co., was presented to the committee. A copy of this financial report will be attached to this report. Your State Treasurer will also make a report of the actual finance as taken from his office.

A copy of complete inventory of the Memphis office fixtures, supplies, etc., that were returned to Nashville to be used in the Postgraduate Committee is herewith attached. The motion picture films used by the instructor throughout the course in obstetrics are to be divided between the obstetrical department of Vanderbilt University and the University of Tennessee.

I want to call your attention briefly to the financial report: Enrollments, 1,319, or \$6,400.50; petty cash fund received from treasurer, \$800.00; disbursed, \$783.30; balance returned to treasurer, \$16.70; lecture books sold, 1,131 at \$1.00 each, or \$1,131.00; books sold, 1,131; gratis, 27; Dr. Whitacre, 20; delivered but not paid for, 1; on hand, 46; unaccounted for, 9. A letter from Mr. Kibler, Field Secretary, states that three books were found, leaving six unaccounted for. In other words, 1,234 books were printed by the committee.

First Year

Receipts from fees and lecture books	\$ 4,235.00
Contributing organizations	12,000.00
Contributing organizations	1,500.00
Contributing organizations	1,500.00
Contributing organizations	500.00
Contributing organizations	500.00
Total	\$ 20,235.00

Second Year

Receipts from lecture and books	\$ 3,295.50
Contributing organizations	9,750.00
Contributing organizations	1,218.75
Contributing organizations	1,500.00
Contributing organizations	406.25
Contributing organizations	406.25
Total	\$ 16,576.75
Total cash receipts	\$ 36,812.25
Disbursements	33,373.25

Approximate balance \$ 3,439.00

The Committee voted to reimburse both Mr. Kibler and Dr. Whitacre the sum of \$1,000 to cover unanticipated travel expenses during their two years' service in Tennessee. The committee agreed that all funds that remained to the credit of this committee be returned in proper per cent to the participating contributing agencies. In the final financial analysis, despite the fact that this committee reduced the amounts contributed in the second year of the participating organizations, and despite the fact that an additional \$2,000 was added to reimburse the unanticipated travel expense of the field organizer and lecturer, the committee returned to the participating organizations approximately \$1,400 in cash.

I just asked Dr. Hamilton how that came out and he said it was approximately \$1,000.

Your Chairman at the request of the General Chairman on Education, Dr. J. Marsh Frere, requested that I attend the National Committee on Postgraduate Education of the American Medical Association held in San Francisco last year. Requests were so numerous for the method and progress of your postgraduate course in obstetrics presented to them that a final report of the two years' activities was prepared in booklet form by your Committee on Postgraduate Instructions in Obstetrics. This booklet will thus serve as the final report of activities and will accompany this attached résumé. Briefly, the statistical report concerning course in obstetrics is as follows:

Number circuits -----	9
Number teaching centers-----	44
Number colored teaching centers-----	4
Number counties included to date-----	95
Number paid enrollments to date, by doctors -----	1,334

That is a remarkable number. Out at San Francisco, at the American Board of Obstetrics and Gynecology, I happened to be at a dinner at which this course was discussed. Dr. Ed Plass said: "If we did not know what was going on in Tennessee, we would not believe you had enrolled that number of men in a course. We thought we were doing good, but our figures do not compare with yours in Tennessee." I was glad to be able to report that back to you.

Number private consultations held with doctors -----	523
Average attendance, by doctors, all circuits -----	80%
Number communities receiving lay lectures -----	61
Number lay lectures-----	76
Number laity attending-----	9,278
To accomplish program to date:	
Number miles traveled by instructor-----	51,000
Number miles traveled by field director-----	53,480
Total miles traveled-----	104,480

Your committee is gratified that this course was so graciously received by the physicians of the state and wishes to thank all physicians for their co-operation. Moreover, they wish to express their appreciation to all participating organizations for their helpful suggestions, and lastly, to thank the House of Delegates for their stanch backing that made it possible to give this course to the physicians of this state. The committee is highly appreciative of the efforts and activities of the Maternal Welfare Committee, for through their efforts there is no question that greater impetus was given to the success of the course. Your Chairman wishes to express the unqualified support of all members

of this committee, for without their mutual consideration and interest in attending all meetings of the committee, the job could not have been accomplished. Dr. Whitacre and Mr. Kibler deserve special praise for their unlimited enthusiasm and untiring efforts, not only in producing a good course, but also in unquestionably surpassing any successful courses of today.

The Maternal Welfare Committee for the coming year is attempting to organize lay organizations into districts. In a measure this has been accomplished already, the motive being to give impetus and direction to lay organizations that are interested in disseminating information for better maternal care as well as the formation of rural clinics.

The committee has already investigated through Dr. Sanders of the State Board of Health as well as Dr. Williams the feasibility of uniting all efforts without overlapping efforts for the welfare, growth, and continuance of this work founded by the Maternal Welfare Committee of your Tennessee Medical Association.

THE SPEAKER: Referred to the Committee on Reports of Committees.

Cancer Committee, Dr. Ralph Monger.

REPORT OF CANCER COMMITTEE

DR. MONGER: Mr. Speaker, for the past two years the outline of the Cancer Committee for the State of Tennessee has been presented to this assembly. The work this year has just been a continuance of this program.

We know the American Society for the Control of Cancer has been organized for twenty-six years. The primary object of this organization for twenty-five years was to work in cooperation with the American Medical Association, American College of Surgeons and the state societies. They had no funds available. The Federation of Women's Clubs sponsored this as one of their projects. As a result of this, the Women's Field Army was organized. This Women's Field Army is under the direct direction of the cancer committees of the state societies.

Starting two years ago at scratch, we designated the week of March 21, in 1937, as Cancer Week. After all expenses were paid for this campaign that one week, we had \$700. Last year the entire month of April was designated as Cancer Week. At a meeting of the Cancer Committee in Nashville, in February, we found that we had more than \$2,000 after all expenses were paid at this time.

This year the entire month of April is going to be Cancer Week, and we hope to more than triple the amount we have in the treasury at this time.

As you know, we have no specific treatment for cancer at this time. The only weapon that we have is education. We now have every district in the State of Tennessee organized, and most of the counties in each district are definitely organized. The president of each county society has received a letter asking that he name a cancer committee

to handle the funds that will be raised from the campaign this year.

The Cancer Committee decided at its last meeting, in February, that the setup would be slightly different this year from the previous years in that, to stimulate more interest in the individual counties raising funds, fifty per cent of the net fund raised in each county would be sent back to that county to be used in any way they wanted to use it in an educational campaign against cancer. That is what we want the presidents of these different societies to appoint these committees for—to assist us.

Mr. Speaker, our program is definitely organized, and it is gaining momentum every day.

Referred to the Committee on Reports of Committees.

In the absence of the chairman, Dr. Cecil E. Newell, Dr. J. Marsh Frere read the report of the Committee on Industrial Hygiene.

REPORT OF COMMITTEE ON INDUSTRIAL HYGIENE

The following is the first annual report of the Committee on Industrial Hygiene.

As you know, this committee was appointed during the fall of 1938. A specific program has not yet been formulated, but the committee has been active in cooperating with the Council of the American Medical Association on Industrial Health.

On January 9, 10, 1939, in Chicago, there was held the first annual Congress on Industrial Health. This was well attended by employers, insurance carriers, industrial surgeons, the American Medical Association, the American College of Surgeons, the United States Public Health Service, state committees, and other organizations too numerous to mention. Our committee was represented at this congress by the attendance of its chairman.

Industrial health as a problem is not young. As a specialty it is in its infancy. The Council on Industrial Health is the most recently formed council in the American Medical Association. The annual congress had its beginning only this year, and our committee is the most recently formed one in the State Association. In spite of the newness of this committee, we have kept in constant touch with the Council of the American Medical Association, and have cooperated with them fully.

Respectfully submitted,

CECIL E. NEWELL, M.D., Chairman,
Chattanooga.

ELKIN L. RIPPY, M.D., Nashville.

JOHN R. SMOOT, M.D., Knoxville.

ASHER R. McMAHAN, M.D., Memphis.

The report was referred to the Committee on Reports of Committees.

The report of the Advisory Committee to the Woman's Auxiliary was called for and, in the absence of the chairman, Dr. Perry Bromberg, was read by the Secretary.

REPORT OF ADVISORY COMMITTEE TO THE WOMAN'S AUXILIARY

As chairman of the Advisory Committee to the Woman's Auxiliary, I beg to say that no matter of importance has been presented to us by that body for discussion except that on a few occasions I have been consulted relative to the ethicality of certain of their proposed programs. I took the responsibility of advising with them without discussing the matter with the committee, as they were regarded by me as of no significance.

Very respectfully yours,

PERRY BROMBERG.

Referred to the Committee on Reports of Committees.

REPORT OF COMMITTEE ON CHILD WELFARE

This committee has functioned in most part through correspondence. However, in November, 1938, the Chairman met with Dr. John L. Lee and the late Dr. Oliver Hill in Nashville to discuss the outline and subjects to be presented in the post-graduate course on pediatrics. Suggestions presented were forwarded to the members of the committee not present at this meeting.

Throughout the year the Chairman has met with Dr. John M. Saunders, Director of Maternal and Child Hygiene, in the interest of the child health program instituted by the State Health Department, and in July, 1939, attended the meeting of the Advisory Committee on Child Health, called by the Commissioner of Health, Dr. W. C. Williams. The School Health program was discussed and means of attaining the objectives, such as communicable disease control, correction and prevention of physical defects, and teaching of healthful living were presented. It is the earnest desire of the Chairman of the Child Welfare Committee to be able to meet with all members of our committee in the future.

FRAZIER BINNS.

Dr. John M. Lee of Nashville, chairman of the Committee on Postgraduate Instruction in Pediatrics, reported:

REPORT OF COMMITTEE ON POSTGRADUATE INSTRUCTION IN PEDIATRICS

At the annual meeting of the Tennessee State Medical Association in 1938 the House of Delegates voted to offer the physicians of Tennessee a post-graduate course in pediatrics in a manner similar to the course in obstetrics then in progress, voted an appropriation of \$1,500 toward the expense for the first year, and appointed representatives to a committee to direct this program. Previously the local agencies that had cooperated in the obstetric course had agreed to participate and aid financially in a pediatric course for the first year as follows: University of Tennessee College of Medicine, \$500; Vanderbilt University School of Medicine, \$500; and the Tennessee State Department of Health, \$1,500. These agencies appointed the fol-

lowing to represent them and comprise the Committee on Postgraduate Instruction in Pediatrics:

Tennessee State Medical Association, Drs. J. O. Manier, Franklin B. Bogart, W. L. Williamson, and Jas. R. Reinberger; Tennessee State Department of Health, Dr. John M. Lee; Vanderbilt University, Dr. John B. Youmans; University of Tennessee, Dr. O. W. Hyman.

This committee met in Nashville, April 14, 1938, organized and instructed the chairman to request from the commonwealth fund a grant in aid of this program in the amount necessary for the annual budget. This request was forwarded to the commonwealth fund April 29, 1938, and on October 13, 1938, the Board of Directors of the Commonwealth Fund appropriated \$12,000, the amount requested, in aid of this program for the first year's work and reserved a similar amount for the second year, "conditioned on the continuing contributions of the organizations concerned and on the physicians' participation through payment of fees."

On December 4, 1938, the committee met in Nashville and interviewed applicants for the position of clinical instructor, subsequently selecting Dr. Willis H. Thompson, assistant professor of pediatrics of the University of Minnesota. Mr. L. W. Kibler was secured as field representative on a part-time basis, his time being divided between the program in Tennessee and a similar program in Oklahoma. Mrs. C. F. Luckey was employed as office secretary. Headquarters were located at 420 Sixth Avenue, North, in Nashville, office space being furnished without charge by the Tennessee State Department of Health.

The first circuit was organized in the towns of Bolivar, Brownsville, Covington, Jackson, and Selmer with eighty-three doctors enrolled, lectures being started February 20, 1939. From reports received the course is meeting a hearty response from those attending.

I understand that two more have joined since then, making a total of eighty-five for the course. We are very much gratified with that initial enrollment, in view of the fact it was realized that pediatrics had a fewer number of doctors than obstetrics would. We had ninety-two enrolled in that course for obstetrics, and a total of eighty-five for pediatrics, which will demonstrate the interest that the doctors are showing in this particular line of activity.

The second circuit is now being organized and thus far fifty-three doctors have enrolled. It is planned to organize circuits so that the course will be offered within reach of all practicing physicians of the state, requiring about two years for completion of the program.

We have prepared some panels for exhibit at the American Medical Association. One of these panels has a map of the State of Tennessee. That is divided into circuits. It is proposed to offer it to the different parts of the state. If you are interested, and will visit the exhibit, you will see this

map, and you will see about the date when the course will be given in your particular part of the state.

Since the first year of this work will be completed before the next annual meeting of this body, it is recommended that at this time an appropriation of \$1,500 be voted toward the expense for the second year of this activity.

At this time it is suggested that the House of Delegates consider the question of continuing this form of postgraduate study after the completion of the present course. Your committee believes it of sufficient value and interest to the medical profession of the state to justify continuing with programs in other branches of medicine and surgery. It is obvious that the State Medical Association is unable to finance such programs without aid from other sources. It is very likely that the agencies now cooperating may continue their aid as at present. These agencies can take official action and make appropriations only at certain dates once or twice a year. To secure their participation and financial aid requires some months. After adequate financial means are secured it requires several months to locate and engage a suitable clinical instructor. Hence, the details of organizing a postgraduate course of this type should be arranged long in advance of the actual start of the program. In order that a competent field representative and office secretary be retained by a prospect for continuity of employment it is desirable to start a new program promptly after the completion of a previous one.

Therefore, if it is decided that other programs of postgraduate instruction be given, it is suggested that the Board of Trustees of the State Medical Association be empowered by action of the House of Delegates to authorize such programs on recommendation of the Committee on Postgraduate Instruction. It is also suggested that the Board of Trustees be empowered to authorize the Committee on Postgraduate Instruction to make necessary arrangements with participating agencies to finance such courses, to select and direct the courses, and to employ instructors, provided that the State Medical Association be obligated not to exceed \$1,500 for this purpose for any one year.

Your committee is deeply grateful for the valued assistance of the officers, employees and members of the Association, and welcome suggestions for the improvement of the service we are striving to render.

Respectfully submitted,

JOHN M. LEE, Chairman,

Committee on Postgraduate Instruction in Pediatrics.

THE SPEAKER: Referred to the Committee on Reports of Committees.

(One committee failed to report when called, the Committee on Physical Therapy, Dr. Robert Patterson, chairman.)

SPEAKER ZEMP: That ends the reports of committees.

I wish to state that, in my experience as Speaker of the House, which has covered quite a number of years, this is the finest group of reports to which I have ever listened. It goes to show what an enormous amount of work and what a variety of work this Association is carrying on, and it cannot help but be of great advantage to the communities in which we live.

I want to congratulate all of these committees. They are so good (I don't know whether this will turn out to be the case or not) I hope they will be reappointed for next year. That is your reward for being so good this year.

We are now under the head of new business.

DR. E. T. NEWELL: Mr. Chairman, I have been sitting in on this assembly for a number of years, and I want to agree with you. I never have heard such splendid reports as have been presented here today.

I heard Dr. Edwards speak about the burden of the Legislative Committee. It is for that reason that I rise this afternoon to take a few minutes of your time. It is a burden and it has been a burden and, with all due respect to the committee and to our very efficient Secretary and officers over here in Nashville, I feel that the time has arrived when we should have some assistance given to this Legislative Committee in a constructive form and way during the session of the General Assembly.

Every manufacturing association, every one of the crafts and unions, and everybody else, as soon as the roll call is made up on Capitol Hill the first morning, have a representative there, and he stays there until the close of the session sine die.

As you noted in the report of the Hospital Committee, there was a bill which did not go through for hospital care. There was another bill which Dr. Edwards said he thought it was best not to push, or to try to put through.

In these days of sudden change in the profession, in the economic situation, I feel that the doctors should turn about and they should take better care of themselves in regard to legislation. Therefore, I want to present this simple resolution.

"Be It Resolved, That the Tennessee State Medical Association appoint a committee to discuss the feasibility of creating an 'Entertainment Fund'—now, mind you, I call it an Entertainment Fund; you can call it a lobby or whatever you want to—to be used to influence medical legislation at the next meeting of the State General Assembly with the view to appointing a representative—assistant, so to speak, to the Legislative Committee"—to be present at the meeting of the General Assembly throughout all of its sessions in 1941, and to protect the interests of the medical profession, and to report to the Legislative Committee all bills and measures affecting the general welfare of the medical profession and its hospitals. That would be any bill that would come up that would affect any doctor, for instance, this pharmaceutical bill; I

don't know whether we are in favor of that or not. Every time anyone used up all the luminal or phenobarbital tablets you had given to him, he would have to call you up and you would have to give him another prescription. Maybe you want to be interrupted and maybe you do not. You cannot charge them for it; I don't suppose you could.

"This committee to have the privilege of selecting said representative."

THE SPEAKER: That will go to the Committee on Resolutions.

SECRETARY SHOULDERS: Mr. Speaker, under the head of new business I have a communication from Dr. Woodward, Director of the Bureau of Legal Medicine and Legislation of the American Medical Association, which I wish to submit now and request that it be referred to the Committee on Resolutions.

Secretary Shoulders read the communication.

April 5, 1939.

Dr. H. H. Shoulders, Secretary
Tennessee State Medical Association
706 Church Street
Nashville, Tennessee

DEAR DR. SHOULDERS:

I certainly hope that the Tennessee State Medical Association, while it is in session in Jackson, April 11-13, will voice a strong demand for an appropriation for the construction of a new building for the Army Medical Library and Museum in Washington and that it will appoint a committee to follow this matter through until an appropriation has been made. The situation is urgent and immediate action is necessary.

Copies of any resolution that the Tennessee State Medical Association may adopt with respect to this matter should be sent to the President, the Secretary of War, and the Director of the Budget. Copies should be sent, too, to the Surgeon General of the Army and to every member of the Tennessee congressional delegation.

The accompanying copy of an editorial from the JOURNAL, May 14, 1938, is now out of date, of course, in so far as relates to the legislative situation. It will give you, however, a good picture of the nature and extent of the service the library renders. Housed in an antiquated building in Washington, the library comprises a vast collection of invaluable medical literature, some of which, if destroyed, could by no possibility be replaced. The building is already overcrowded with books, but new ones that must be added to the library appear every day and the overcrowding becomes worse instead of better. Demands for the service of the library increase as medical science expands and medical literature increases and as the number of physicians and others interested in medicine and public health grows larger, but the facilities of the library for service do not expand and cannot be expanded in the present building.

This library is commonly referred to as the Army Medical Library, but it is in every way es-

essentially a library for the medical profession and, through the profession, a library for the people. It is an "Army" library only in the sense that it has been built up to its present pre-eminence among the medical libraries of the world through the interest and energy of successive surgeon generals and librarians and is administered by the Surgeon General of the Army as best he can with the resources provided by Congress for that purpose.

The Seventy-Fifth Congress passed an Act authorizing the Secretary of War to construct a building to replace the present Army Medical Library and Museum Building and the President approved it June 15, 1938. That Act carried with it, however, no appropriation. The next step, therefore, is for the Secretary of War to submit to Congress a request for the necessary appropriation, approved by the Director of the Budget.

It is unfortunate that such a request was not submitted in connection with the regular annual estimates of the expenses of the War Department for the next fiscal year. The bill providing money to cover such expenses has already passed both houses of Congress and it is therefore too late to get into that bill an item providing funds for the construction and equipment of a new library building. It may be possible, however, to procure the insertion of such an item into some deficiency appropriation bill or some other appropriation bill during the present session of Congress. If that is not done, the making of plans looking toward the construction of a new building will be delayed by as much as a year. Active and forceful work should therefore be inaugurated at once.

Yours truly,

WM. C. WOODWARD, Director.

April 7, 1939.

Dr. William C. Woodward, Director
Bureau of Legal Medicine and Legislation
American Medical Association
535 North Dearborn Street
Chicago, Illinois

DEAR DR. WOODWARD:

I have your letter of the fifth.

I will read your letter to the House of Delegates of the Tennessee State Medical Association.

I think this is the best method of presenting the matter to the House for consideration.

Very truly yours,

H. H. SHOULDERS, Secretary-Editor.

Proposed New Building for the Army Medical Library and Museum

A bill, for which the President has already indicated his approval, authorizing the Secretary of War to construct a building to replace the present Army Medical Library and Museum Building at a cost not to exceed \$3,750,000, was introduced April 28. The bill, if enacted, will provide enlarged facilities for the custody and use of the million or more volumes now in the library and for future expansion. This bill proposes the only possible so-

lution for the present situation. The Army Medical Library, frequently referred to as the Surgeon General's Library, is in fact the library of the entire medical profession of the United States. It is identified with the Medical Department of the Army only because Surgeon General Lovell in 1836 conceived the idea of its organization and because through the interest and enterprise of successive surgeon generals it has been brought to its present magnitude and efficiency. It is the largest medical library in the world, containing nearly 500,000 books. If pamphlets, theses and other manuscripts are included, its total number of volumes is above a million. For many years it has been the mecca of American physicians who are seriously engaged in medical research, teaching, and authorship.

Thousands who have never visited the library have obtained through its interlibrary loan system the use in their own homes of medical books that otherwise would have been inaccessible. Many more thousands who have never visited the library and possibly never even heard of its interlibrary loan system have been the beneficiaries of its resources, through the publication of books and of periodical literature made possible only because authors and publishers have been able to avail themselves of its facilities. The physicians of the country now have an opportunity of repaying in part at least the debt they owe the library and to secure for themselves and for the physicians who are to follow the benefits of an even greater library in the future. If they rally promptly to the support of this bill, it should be possible to procure its enactment even in the brief time that will elapse before the present session of Congress adjourns and thus to save a year or more in planning and construction time.

Under the same roof as the Army Medical Library is the Army Medical Museum, established by the Medical Department of the Army in 1863 and now the largest museum of human pathology in the United States. The building in which both are housed, erected about fifty years ago, is a squat red-brick building, on an inconspicuous and somewhat inaccessible site, utterly incongruous when considered in connection with the magnificent public structures erected in the national capital during recent years. The continuous accumulation of books and periodicals, the enlarged demands for service arising out of the broadening fields of the science and art of medicine and the increase in the number of potential patrons that has resulted from the increase in the number of physicians have combined to make administration difficult. There is urgent need too for the better protection from fire and possibly other hazards of the invaluable collections of books, periodicals and pathologic specimens now housed or crowded into this old and outmoded building.

The pending bill leaves details of the construction of the proposed building to the judgment of the Secretary of War. In the selection of the site, however, the advice of the National Capital Park and Planning Commission is to be requested. This

arrangement assures the construction of a building adequate to house the existing library and museum, to provide for future expansion and to meet the needs of physicians and other students of the science and art of medicine who desire to avail themselves of its facilities. It assures also the location of the building in proper relation to existing public buildings and others projected by the Planning Commission and at a point affording the greatest possible convenience to the patrons of the library and the museum. All in all, the enactment of the bill should create in Washington a truly great monument for American medicine.

In the Senate, this bill, S. 3919, was introduced by Senator Sheppard of Texas, chairman of the Committee on Military Affairs, and immediately referred to that committee. In the House of Representatives it was introduced as H. R. 10455 by Representative May of Kentucky, chairman of the House Committee on Military Affairs, to which committee it was immediately referred. Before it can become a law, it must be reported by these committees to the Senate and the House, respectively, and must then run the legislative gauntlet. As the present session of Congress is now expected to adjourn at least as early as June, it is imperative that every effort be made to make clear to Congress the importance of this measure and the urgency of prompt and favorable action.

Upon motion by Dr. H. H. Shoulders, seconded by Dr. A. F. Richards, the House by vote referred this communication to the Committee on Resolutions.

AFFILIATE FELLOWS OF AMERICAN MEDICAL ASSOCIATION

Report of Reference Committee.

Dr. A. F. Richards of Sparta reported that Dr. S. E. Gaines, also of Sparta, was qualified for affiliate membership in the American Medical Association.

Dr. J. B. Swafford mentioned the similar condition of Dr. Fred B. Stapp of Chattanooga. It was moved by Drs. Richards and Swafford, and seconded by Drs. Shoulders and Laws, respectively, that Drs. Gaines and Stapp be made honorary members of the Tennessee State Medical Association and that the Tennessee delegates to the American Medical Association be instructed to propose Drs. Gaines and Stapp as affiliate fellows in the American Medical Association.

The motions were put to a vote and carried.

(See page 451, Resolutions Committee.)

By motion made by the Credential Committee, Dr. A. R. Kempf was seated as a delegate from Robertson County.

At 4:10 P.M. the meeting adjourned to meet at 9:00 A.M. Wednesday, April 12.

WEDNESDAY MEETING

The meeting was called to order by Speaker Zemp at 9:30 A.M.

The first order of business was Councilors' reports:

First District

DR. L. E. DYER, Councilor

DR. L. E. DYER: The First District is composed of eleven counties in the extreme east of the state. I do not have reports from two of the counties.

My home county is Greene. We have had during this past year one or two very remarkable things in the different counties of the First District. For instance, in Sullivan and Johnson Counties, that is, Kingsport and Bristol, one remarkable thing is there are fifty-one active members of the society; there are fifteen more eligible. There are only sixty-nine in those two counties, so that leaves only three doctors in those two counties who are ineligible. I think that is a remarkable thing that we only have three in a town the size of Kingsport and Bristol who are ineligible to belong to the society.

Another thing that I think is remarkable with these smaller societies is the average attendance at each medical meeting. For instance, in some of the smaller counties, like Carter County, Elizabethton, there are ten members, and there has been an average attendance of eight. There were eleven scientific papers. That shows the interest that even the smaller societies show.

Take my own county, Greene County, with twenty members. Number of physicians in the county twenty-two; physicians eligible, two. That bears out the point I mentioned a while ago, that we have very few physicians who are ineligible to belong to these organized societies.

Take Washington County; that is one that is next to the largest. It has a membership of forty-nine. I believe there are fifty-three physicians in the county, showing how active the organized society has been in keeping up their membership. They have an average attendance of twenty-one throughout the year, with nineteen scientific papers. The smaller societies have kept up their attendance in proportion.

We have one unfortunate thing in the counties of Hancock, Claiborne, and Hawkins. Hawkins County has been organized at different times, but is inactive at present. There are only a few doctors in Rogersville, and they quite often attend at Kingsport, Greeneville, and Morristown. The other two counties that we do not have organized are Hancock and Claiborne. They are mountainous counties. One has only two or three doctors in it, and it is just impossible for them to be organized.

On the whole, the attendance of the different counties has been fine during this last year. We have lost very few. Unfortunately, in this year, since 1939 has started, we have had some of our best meetings.

Second District

DR. S. R. MILLER, Councilor

Mr. Chairman and Gentlemen: We did not receive any report from Scott County. The Secretary has not received it. I wrote to the Secretary and

asked for a report more than a week ago and had not received it when I left home.

The Second District has seven counties organized, two not organized, or three if you count the old district. Jefferson County cannot keep an organization going. We have reorganized them several times. We do have several of their members as members of other societies in the Second District.

The six counties from which I have reports show a membership of 230. There are 258 physicians reported in the counties as eligible for membership. That makes a difference of twenty-eight. Most of those men are old men. I know of two or three who have moved to other territories who are included in these twenty-eight. So these twenty-eight are really not worth much to us.

New members received during the year, thirteen; died, nine. You see, we have had a pretty heavy toll in deaths of our own members. A great many of these other members are old, too. We had nine dropped for nonpayment of dues. This is reported as of the first of the year. Some of the constitutions and by-laws do not require them to pay then. But, according to our Constitution and By-Laws, they cannot be reported as members unless they have paid up their dues.

We have had 129 meetings in this district. We have had an average attendance of 105 $\frac{5}{6}$, which is a very fine attendance. Knox County, however, has an average attendance of sixty-eight, which is one of the best reports we have received.

Three or four of these men have moved, as I say, to other territories. These unorganized counties have several members in Knox County or Hamblen County. We have done everything we could to get these eligible members into some county society, their own or some other.

Third District

DR. HIRAM A. LAWS, Councilor

DR. FRANKLIN B. BOGART: I got the report from Dr. Laws. It is also a statistical report. The figures are not totaled for the whole district. I won't attempt to read all of it.

There are two or three things that are interesting. He has a very large district, that is, as far as the number of counties is concerned. Some of them are not organized at all in those mountains. He had three, Bradley, Monroe, and McMinn, from which he was unable to get a report. He said he called repeatedly, sent stamped envelopes, and everything else and could not get any report out of those three.

In all of the counties there were thirty-five who were considered eligible who did not belong, but there were thirteen of those in one county, Warren, that does not have a society.

One interesting thing about it is that in the whole district during the year there was only one death.

Fourth District

DR. J. T. MOORE, Councilor

As usual, it was impossible to get reports from all of the counties in my district. I could only

secure reports from seven active medical societies, Fentress, Jackson, Putnam, Smith, Wilson, Cumberland, and Sumner.

So far as I could ascertain, we had no deaths in this district. We have active medical societies in seven counties. We have several small counties in this district where there are so few doctors, it is hard to get an organized medical society, such as Clay County, Pickett County, and Overton County. They do not meet regularly.

In Fentress County they meet half the time; Jackson County half the time; Putnam County every meeting. Smith County had regular meetings for the twelve months; Wilson County every month except one, and that was due to a special course that the doctors were attending at one time. We have in this district a five-county medical society, and a great many of these men who do not attend the county societies go to this five-county medical society. We have a real society there. From twenty-five to thirty doctors meet every two months. They have a real good time, good meeting, and good program.

Fifth District

DR. J. W. SUTTON, Councilor

See tabulated statistics.

Sixth District

DR. H. S. SHOULDERS, Councilor

SECRETARY SHOULDERS: Dr. H. S. Shoulders is engaged in a sectional meeting and left his report here to be read.

It embraces two counties. This is purely a statistical report, no controversial matters having arisen. So I will file the statistical report as part of the complete report.

Seventh District

DR. C. D. WALTON, Councilor

DR. S. R. MILLER: Mr. Chairman, Dr. Walton found at the last minute he could not come to the meeting. He sent his report, however, with the regret that he could not be here. He has only five reports. I don't know how many counties he has, but a good deal.

Summing up, he has sixty-eight members; eight new members; two deaths; four dropped—a net gain of two. They have had thirty-six meetings during the year. One of the societies hasn't had a single meeting. Another society has had only one. Most of the societies have had ten or twelve meetings.

Eighth District

DR. J. R. THOMPSON, JR., Councilor

In the Eighth District, which is the local district, we have had the same problem I have reported to this House for the past three years, in McNairy County, a small county of five members and only ten physicians in the county, about forty or fifty miles south of here. We have attempted to put them in with some larger group. We finally got

them interested three or four months ago. They wrote and asked what they must do. We went to work and told them and carried on considerable correspondence, the last four letters of which have been unanswered. So they are still in status quo, as far as they are concerned.

The Tri-County Society, which was composed of three small counties surrounding Jackson, as of the first of January voted to turn in their charter which they did. Those men, on invitation from the Madison County Medical Society, became members here. They were as close to this society as they were to one another. They gave up their separate organizations rather than to attempt to have small meetings, with ten or twelve at a meeting, and came here with an average of twenty-five or thirty men. They gave up their charter. I don't think that requires any action. Did you accept that charter?

During a discussion engaged in here by Drs. Thompson, S. R. Miller, and H. H. Shoulders, it appeared that Henderson, Decatur, and Chester Counties desired to surrender their charters so that their members could join the Madison County Medical Society. Such was Dr. Thompson's recommendation, seconded by Dr. S. R. Miller. At the conclusion of the report, it was voted to accept the surrender of charters of these three counties.

Dr. Thompson's report continues: Fayette-Hardeman is in good shape. There are twenty-four physicians in the county and eighteen are members. Three of the counties in the upper bracket go into the Seventh District, but they report to me only in so far as membership is concerned. They have practically completed the roll. One of them, Henry County, has seventeen physicians and fourteen members, which is practically in keeping with the other two.

We have had two deaths, Dr. E. E. Waller of Madison County and Dr. Harold D. Haney of Bolivar, in the Fayette-Hardeman group. That completes the report.

Ninth District

DR. E. H. BAIRD, Councilor

I have a much different report from what I had last year. We try to keep active societies going in the district as much as we can and have two or three very active societies, especially one.

We have in the district ninety-eight members and 153 residing in the counties. New members, five; seven died during the past year. I noticed, Mr. Secretary, some of those names were not in that report that was put through the House yesterday in memoriam of those who died. We had one man who belonged to the society for thirty years. I noticed his name was not on there, and it should be placed there.

We had 104 scientific papers read; thirty-six meetings. In one of our societies we have all the way from twenty-five to fifty members present. I do not know that there was anything unusual that came up in the district. Things are about the same as they were last year.

Tenth District

DR. W. B. BURNS, Councilor

Mr. Chairman and Gentlemen: The Tenth District comprises only Shelby County. The number of members of the society now is 332 regular members, not including six veterans and twelve associates. Number of physicians residing in the county, 350; number of physicians eligible for membership, who are not members of the society, eighteen; number of new members during the year, twenty-four, including one transfer; number of members who died during the year, five. Those members were Drs. H. L. Berry, E. J. Johnson, H. A. Hart, W. M. Bigham, an associate member, and W. T. Black. Number of members dropped from member roll, one (transferred); number of meetings of the society during the year, nineteen; average attendance at meeting, sixty; average attendance of visitors, four; number of scientific papers read, thirty-one, and thirty-one case reports. Five were addresses by invited guests. Name of president, Dr. J. H. Francis.

We elected during 1938 two veteran members, Dr. B. F. Turner and Dr. E. E. Francis. I see they have my name on here for election, but I was elected this year as a veteran.

STATISTICS OF COUNCILORS' REPORTS

COUNTY and DISTRICT	Members in County	Physicians in County	Eligible Nonmembers	New Members	Died During 1938	Dropped Society	Meetings Average	Attendance	Papers Read
FIRST DISTRICT—									
Carter -----	10	13	3	3	0	1	10	8	11
Coeke -----	0	0	0	0	0	0	0	0	0
Greene -----	20	22	2	1	0	1	12	11	14
Sullivan -----									
Johnson -----	51	69	15	5	0	0	10	25	8
Unicoi -----	4	7	1	1	0	3	11	4	7
Washington -----	49	50	3	5	0	5	12	21	19
SECOND DISTRICT—									
Anderson -----	12	17	5	1	2	0	12	6	12
Blount -----	25	33	5	1	2	1	48	11.5	27
Campbell -----	23	20	4	2	0	2	11	10	7
Hamblen -----	12	11	1	0	1	0	12	8	12
Knox -----	161	170	5	8	3	7	40	68	40
Loudon -----	6	9	2	1	1	1	8	5	7
Roane -----	14	18	4	2	0	0	9	7.3	9
THIRD DISTRICT—									
Bledsoe -----	2	4	0	0	0	0	0	0	0
Franklin -----	2	9	16	7	2	0	1	12	6
Grundy -----	6	5	0	0	0	0	2	50%	11
Hamilton -----	144	214	20	8	1	2	38	55	63
Polk -----	8	10	2	1	0	0	1	3	0
Warren -----	13	13	0	0	0	0	0	0	0
White -----	12	13	12	0	0	0	11	7.09	8
FOURTH DISTRICT—									
Pentress -----	5	5	0	0	0	0	2	4	0
Jackson -----	6	6	0	1	0	1	6	4	6
Pittman -----	19	20	6	0	0	0	12	8	11
Smith -----	9	13	3	0	0	0	12	6	10
Wilson -----	17	21	2	4	0	2	11	10.85	11
FIFTH DISTRICT—									
Bedford -----	14	12	0	4	0	0	12	9	11
Lincoln -----	16	20	4	0	0	0	5	7	5
Rutherford -----	22	22	5	1	1	0	12	14	12
SIXTH DISTRICT—									
Davidson -----	271	458	0	16	2	0	37	70	37
Robertson -----	15	20	5	0	1	2	12	12	12
SEVENTH DISTRICT—									
Dickson -----	8	12	4	1	1	0	1	5	0
Giles -----	15	17	4	3	0	6	12	8.41	8
Hardin, Lawrence, Lewis, Perry -----									
Wayne -----	25	33	4	2	1	3	11	18	40
Hickman -----	7	7	0	1	0	1	2	0	0
Williamson -----	13	19	3	1	0	1	6	10	6

EIGHTH DISTRICT—

Carroll	6	15	9	1	0	0	12	10	36
Fayette									
Hardeman	18	24	6	1	1	1	10	9	20
Henry	14	17	17	1	0	0	12	8	18
Madison	56	34	0	3	1	0	11	30	22
McNairy	5	10	5	0	0	5	3	2 to 4	1

NINTH DISTRICT—

Dyer, Lake, and									
Crockett	37	48	7	2	0	0	10	32.4	28
Gibson	23	28	2	1	1	1	9	11	15
Haywood	10	14	4	0	1	1	12	8	24
Lauderdale	6	15	9	0	0	2	2	6	0
Obion	9	27	12	0	1	0	3	7	2
Tipton	9	17	8	3	0	1	5	100%	5
Weakley	13	21	7	0	0	1	0	0	0

TENTH DISTRICT—

Shelby	332	350	18	24	5	1	19	60	31
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COUNCIL REPORT

Dr. S. R. Miller reported for the Council, saying the Council had a meeting yesterday. There was only one case that came before it. That was the case from Hamblen County that has been up almost a year with the Councilor. This man felt aggrieved because he could not get membership in the society. The matter was taken up with the members of the society to see why. He claimed there was prejudice because he was from the North. In this county during the war everything was solid Union. That did not work. We found, on investigation, that the man was almost anything but fit for membership in the society.

We wound up, after long correspondence with him and members of the society, and various interviews, by telling him there was no chance for him to get in, and if he appealed to the Council at this meeting, as he was going to do, he would not have a shadow of a show, and the best thing for him to do was to go ahead and try to make a decent man out of himself, make some friends among the local profession, if he could, and not carry a chip on his shoulder all the time, and not go around talking about some of the members because they happened to be older than he was, calling them old fogies, and so forth. There were grave charges against him. This was reported to the Council, and the Council ratified the action of the Councilor.

One more thing I want to say here, Mr. Chairman. You noticed in the report of the Treasurer a good many of these committees put in expenses. We as Councilors are entitled to put in any expenses we have for travel, postage, and so forth. I have been a member of the Council since 1913, when it was organized, chairman about three years later, and if there has ever been a penny put in for expenses by the Councilors, for traveling expenses, visiting different people, or for postage, I don't know it. So the Councilors are carrying their part of the load.

We hear so much about wanting to combine these societies and making larger societies that will have some membership worth while to have an enthusiastic meeting. Now the Councilors have done all they can. The Secretary has done what he could. The Assistant Secretary has done what he could. The Councilors have discussed this matter in their meetings numerous times. There is but one way to do it, and that is for this House of Dele-

gates to order certain counties combined. I do not believe it ought to be done offhand, but I do believe that a committee of the Council could make recommendations to this society at a future meeting; let the societies that are involved be notified of that and have them come here.

You take Loudon and Roane in the Second District and Monroe in the Third District—those ought to be combined. In the summertime we have about three meetings, one in each county, and we have a great big meeting, an enthusiastic meeting, large attendance, but you cannot get those men to agree to combine. I have written to them; I have visited them and talked with them about it. As Sherman said: "You can sometimes lead East Tennesseans, but the devil in hell cannot drive them anywhere."

I don't think it is good for the Councilors to drive them. It is for this body to determine whether this body shall drive them or not.

Dr. Dyer and I have had conferences about a combination of the First and Second District counties—Greene, Cocke, and some others. I have no doubt that all of the Councilors have the same trouble.

If we could get some concrete plan and let this House order it, giving those people notice beforehand for their delegates to come here and say whether it should or should not be done, I believe we might accomplish something.

THE SPEAKER: That is purely up to the Councilors. Let them send in their recommendation and we will discuss it and act on it.

SECRETARY SHOULDERS: I rise to discuss for one minute the suggestion by Dr. Miller. For some years I think I have embraced in each report I have made something of the difficulties of getting smaller units combined to make bigger and better units. As a matter of fact, this matter of combining counties is discussed in the administration. Our county situation is really a difficult, expensive, cumbersome, administrative system. As you know, the size of counties was determined years ago on one basis, namely, the amount of time it would take a person to get up in the morning, do his chores, get to town on a mule, transact business and get back home in time to do up chores that night. That determined the size of the county. It was determined for that day.

I think it would be appropriate for this House to take some action because it is an expensive, difficult matter to keep those men in the counties organized, and it makes a very poor-looking report where you show the number of counties not organized. As a matter of fact, most of the worth-while doctors in the county are already members of some adjacent county. It is purely a technical matter of getting them into a few good organizations.

THE SPEAKER: As I say again, the only thing we can do is to have the Councilors make a recommendation, notify the members of that county that it is to come up at the next meeting, and have this

House pass it. They might have some good reason we do not know about, and therefore they ought to be given a chance to state their side of the question.

ELECTION OF COUNCILORS

Speaker Zemp said the next order of business, following Councilors' reports and the Council's report, was election of Councilors. This year the election of Councilors for the even numbered districts are to be elected.

Second District—Dr. S. R. Miller was nominated by Dr. Copenhaver, seconded by Dr. Stanford. Dr. Burns moved that nominations be closed. Seconded, put and carried.

Dr. Miller was declared elected by the Speaker.

Fourth District—Dr. J. T. Moore was nominated by Secretary Shoulders and Dr. Howard. Nominations closed by motion, regularly seconded, put to vote and carried.

Dr. J. T. Moore declared elected by the Speaker.

Sixth District—Dr. H. S. Shoulders was nominated by Dr. D. W. Smith. Dr. Stanford moved to close nominations. Motion seconded, voted and carried.

Dr. H. S. Shoulders declared elected by the Speaker.

Eighth District—Dr. J. R. Thompson, Jr., was nominated by Dr. H. H. Herron. Seconded by Dr. W. B. Burns. Motion put to vote and carried.

Dr. J. R. Thompson was declared elected.

Tenth District—Dr. W. B. Burns was nominated by Dr. Webb Key. Dr. Stanford moved to close nominations. Motion seconded, voted on and carried.

Dr. W. B. Burns was declared elected by the Speaker.

Dr. E. H. Baird brought up the matter of combining small counties for scientific programs, allowing each county to retain its charter and representation in the House of Delegates. The discussion was engaged in by Speaker Zemp, Dr. W. B. Burns, and Dr. J. B. Stanford. No action was taken. Speaker Zemp announced a special order of business and introduced Dr. Rock Sleyster, president-elect of the American Medical Association. The audience arose and applauded.

ADDRESS BY DR. SLEYSTER

DR. ROCK SLEYSTER: Mr. Speaker, I have no speech prepared to give you this morning, and I haven't the slightest idea in the world what to say. I attended a luncheon meeting down here yesterday and listened to your distinguished Secretary burn up a luncheon club. I only wish this morning I had a little of his ability to get up and give an extemporaneous speech and say a whole lot of things that would ring the bell every time I said them as he did.

It seems to me that we might call this a stockholders' meeting. One of the things that has always disturbed me in going about to medical societies is to hear the membership refer to the

American Medical Association in the third person. "What does the American Medical Association think about this? What is the American Medical Association going to do about this?" and that sort of question. As I said last night, this is the American Medical Association meeting here this morning. This is a part of it. We might think of it as a big corporation, and each and every one of you is a stockholder in it. You each hold the same amount of stock that I hold or that any doctor in New York or Boston or San Francisco holds. No one has a greater share of interest in it than another. It is democratically organized from the ground up. Your influence on it, your control, is numerically proportionate exactly to what it is in any other state. It is your society, and you are the American Medical Association.

Now, as one of your officers, if we think of this as a stockholders' meeting, I know you are interested in how well things are going, because, during the last five years especially, you have read a great deal of propaganda, headlines, which stated that the American Medical Association was falling to pieces; it was being disorganized; there were big differences of opinion, and large sections were splitting off. Those who seemed to be interested in promoting these things have repeatedly made these statements and tried to get them out especially to the public.

A couple of years ago we heard a great deal about a committee of 430. That did sound kind of big to lots of people, I suppose, but, after all, when you think of 430, it is less than a third of one per cent; it would be pretty hard to get a group of 350 men together anywhere that one fellow would not differ in opinion on any question. I suppose you could get 350 Tennessee men together this morning, and one out of the 350 would be willing to vote to take me out and shoot me at sunrise tomorrow morning. I don't care what it is. I think that is a perfectly remarkable record. It is a great pleasure to me to report that the membership of the American Medical Association, on the first of March, passed 112,000 members, for the first time in its history. That is a gain of 14,000 members in the last five years, while everybody has been predicting that the American Medical Association was going to pieces and falling apart.

We have never built so fine. There has never been such unanimous opinion, and the membership has never been so thoroughly united on any one subject as they are today.

So the American Medical Association is a pretty healthy going concern, and we need not worry about any committee of 430 or any headlines that we may read that the American Medical Association is going to pieces.

It rather seems to me that, with all the shooting we have been listening to in the last few years, the greatest danger is right from within our own membership. A lot of fellows are very jittery.

I remember a story that Dunne printed in his Mr. Dooley series a good many years ago. I know

the older men will remember those stories of Mr. Dooley. He told about some of the boys in the neighborhood in that ward in Chicago. Mrs. Finnegan was giving a party on Finnegan's birthday, and it got noised around the ward. So, some of the boys got out in front of Mrs. Finnegan's house and called her names, and, while she was on the front porch scolding them, somebody sneaked in the back door and stole the ham she had prepared for the occasion. I am not so certain we have not been out on the front porch talking back to them and taking the whole thing a little more seriously than we should, and there are indications that while we have been doing that, some people have been trying to get in the back door and steal the ham that we have been so carefully preparing and conserving.

I don't think we should focus our whole attention on the attacks that have been made on us. We must not lose sight of the fact that, after all, we are organized as scientific bodies, and the primary purpose of every medical society, from the county up, is to make better doctors out of the members in order that they may render a better service to our people.

I think that delegates such as you are, and Councilors, might well afford to take a course in newspaper reporting. I think your functions is to carry back to your districts the news of what is going on and to explain to the membership in general the functions of organized medicine and its activities. I think that is equally important, as it is to meet once a year and take care of your legislative matters.

I think that one of the most valuable functions you can perform after this meeting is to go back to your homes and acquaint your societies with what has been going on here. I would like to go a little farther than that.

We cannot have this many delegates from Tennessee to the American Medical Association. If every state was represented that way, we could not find a house that would take care of them, but I do think that every one of you delegates should carefully read, after the meetings of the American Medical Association, the reports of the actions which have been taken by that House and bring those back to your county societies as well. In other words, you are really the organization men of your districts. I think it is tremendously important that you be familiar with everything that is being done in an organization way and that you can go back and report to your stockholders just as I am making this little, short report to you as stockholders of this great corporation.

I think it is important for you to be familiar with the bureaus and the councils of the American Medical Association. It is a little disappointing sometimes to find how little our membership in general know what is going on in the headquarters building. As I told you last night, that isn't the American Medical Association, but we have a plant down in Chicago that is worth more than two million dollars; it has 600 employees in it. That is

your plant. Those people are employed in carrying out and doing work which you have ordered them to do. You should be familiar with what that work is, and you should support it.

Let us just very briefly mention, for instance, the Council on Pharmacy and Chemistry. I am sure the older members in this group recall the circumstances I mentioned last night of the days when we started to practice medicine and what therapy was in those days. I remember I did not have much of an idea about *materia medica*; we had not had much of a course in it. The first few years I was out I depended a good deal on what the detail men told me, and I depended a good deal on the medical advertisements. It seemed to me if they were published in the medical journal, they were all right. I look back with a good deal of shame and horror at some of the things I prescribed for my patients during those days. It was a chaotic state of affairs.

In 1905, Mr. Simmons and that group started to clean that up. Our Council on Pharmacy and Chemistry was organized, and it was determined to sacrifice hundreds of thousands of dollars' worth of advertising and throw out of the JOURNAL everything that could not meet the standards of approval which were established by that Council. So that now any physician may prescribe any drug which he has seen advertised in our publications and depend upon it that it does what is claimed for it, that there is no dishonest advertising there, and there is some censorship of those things. There has been a great, big clean-up campaign.

It is surprising how many of our own members do not appreciate that work, and it is surprising, for instance, with our own publications, we have numerous journals bearing on the specialties, where some commercial publisher is publishing another journal in competition with our own, accepting any and all kinds of advertising. It is purely a money-making concern. The scientific part of the journal is good, but the advertising carried in that section is thoroughly dishonest. Still you can pick up these outside journals and find the list of associate editors on the page, and you are utterly astounded that our own leading members, men who are outstanding in their specialties, seem to unknowingly lend their names to an entire commercial journal which is published for the profit of some publishing house, which contains thoroughly dishonest advertising, but still their names are lent in support of it. Probably that is human nature. Doctors, as well as other people, like to see their names in print, but some of our best men carry their names there and contribute regularly to these journals.

In closing, I just want to make this plea, that you delegates be scouts who are going back to your own societies and to your own membership. Be familiar with the activities of your Association. Know what it is all about. Bring the story back to your own societies. When you meet medical men, even not in medical society meetings, talk about these things and do everything you can to

get these men familiar with and appreciative of the efforts which organized medicine is making to raise standards and to meet the ideals that we have all endorsed.

It has been a great pleasure to be here. I always like to come south. When I get a little older and romantic, I would like to spend the rest of my days down here with you. (Applause.)

REPORTS OF REFERENCE COMMITTEES

Delegates to the American Medical Association.

The reports of the San Francisco meeting and of the special session in September having been published in the October JOURNAL, the Speaker granted permission to omit reading the report.

Credentials Committee had no report.

REPORT OF COMMITTEE ON REPORTS OF OFFICERS

DR. O. N. BRYAN: Mr. Chairman, we have reviewed the report of the Treasurer which has been duly audited, and we recommend the acceptance of it.

THE SPEAKER: I will entertain a motion to accept this report.

DR. SCHRAM: I so move.

DR. MANIER: I second it.

The motion was put to a vote and carried.

DR. BRYAN: The next is the report of the Chairman of the Board of Trustees. We have reviewed this, and we recommend the acceptance of it.

DR. MILLER: I move it be accepted.

DR. SWAFFORD: I second the motion.

The motion was put to a vote and carried.

DR. BRYAN: Next we have the report of the Secretary. Under this I think there is one phase of it that we should bring before the House. That is with reference to colored physicians. In this he states:

"I deem it appropriate to bring to your attention a situation not touched upon in previous reports. It relates to the matter of colored physicians in the state. As you know, we have several hundred in practice. In addition to this, we have an A grade medical school for colored students, graduating a class each year. All these graduates, of course, do not locate in Tennessee, but the number of colored physicians is increasing. None of these are eligible to membership in the Tennessee State Medical Association. This situation, of course, affects our membership adversely, but this is not the main point. The facts are that these physicians cannot become members of the American Medical Association except through membership in the state association.

"In several states, principally in the North, colored physicians are members of the state associations.

"Colored physicians are organized into what is known as the National Medical Association.

"Last year political influences, with headquarters in Washington, made a strong attempt to play on the prejudice of the colored physicians and secure their support of the National Health Program as then proposed. These colored physicians decided to remain loyal to the principles of the American Medical Association.

"Three members of the National Medical Association addressed the extraordinary session of the House of Delegates of the American Medical Association last September on this very question. At the same time they requested consideration of their problems.

"I do not raise this question for the purpose of making recommendations as to the actions which should be taken now. I raise the question for the purpose of introducing you to the fact that a problem does exist which deserves very careful consideration on the part of this House of Delegates."

Your committee agrees with him very much that this consideration should be given. We are more or less in sympathy with it, but as to our making any definite recommendations, your committee only came to one conclusion, and that is we would recommend that a committee be appointed from the House of Delegates consisting of men from each grand division of the state, to investigate this thoroughly and come back next year with their recommendations on this subject. I so move, sir.

THE SPEAKER: Do I hear a second to the motion?

DR. RICHARDS: I second it.

THE SPEAKER: It is open for discussion.

DR. STANFORD: We have to look at this matter from two standpoints: First, the standpoint of the colored physician. I don't know what the postgraduate arrangements are at Meharry Medical College, but except for what they have there a negro doctor must go north for any postgraduate instruction. Those that I have known who went north for such instruction afterwards stayed north in the practice of medicine. There should be some arrangement whereby negroes profit in their own home town from medical knowledge that is present there.

Recently, in Memphis, in the past year, we have permitted certain of the negro medical profession to occupy some seats in the back of our hall to listen to papers and discussions. They requested such permission, and we were glad to grant it to them.

The other standpoint is ours. If we do not keep the negro profession friendly to us, somebody is going to get them very unfriendly to us. Effort has already been made along those lines. I would like to agree with Dr. Shoulders and Dr. Bryan. I hope something constructive can be done along those lines.

DR. BOGART: Mr. Speaker, I think this is an important subject. All of you know that, in the conduct of the course in postgraduate instruction in obstetrics, which was completed last year, and in the conduct of the course in pediatrics which is now in progress, the colored physicians of the state were invited and did participate in that course and, I am sure, derived a great deal of benefit.

I think all that Dr. Stanford said is true, and I think the move is timely, to work out some plan of that kind. I think it is very imperative that it be done.

Having been born and reared in the South, I recognize, as I am sure all of you do, that it would not be feasible to have them full members of our societies and participate in all activities as is done in some other sections of the country, but I don't see why it would not be entirely feasible to have some affiliate membership worked out. Let them have their own organizations, as they do now in the bigger cities, and let them become members of the American Medical Association. I think it is a very important move and is a thing for which a committee should be appointed to work it out and report back next year.

The question was called for.

THE SPEAKER: Let us discuss this. Give everybody a chance to express himself. All right, are you ready for the question? As I understand the motion it is that a committee be appointed, composed of members from different sections of the state, no special number indicated, to study this question and bring it back before the House at our next meeting. All in favor say "aye"; opposed "no." It is carried.

DR. S. R. MILLER: Mr. Chairman, I don't believe there is any better committee than the Board of Trustees. They know the finances; they know the different influences. They are composed of members from the different divisions. I make a motion that the work be assigned to the Board of Trustees.

THE SPEAKER: The motion has already been made that they be appointed. You could have amended that motion. I don't suppose you mean that the Speaker is to appoint them.

DR. BRYAN: Yes.

THE SPEAKER: I can appoint the Board of Trustees. They are from the different sections of the state. That would not conflict with the motion. I will take that under consideration.

Report of the Committee on Reports of Committees, Dr. J. O. Manier.

DR. MANIER: Mr. Speaker and Members of the House of Delegates: Your Committee on Reports of Committees met last night and went over the rather voluminous number of committee reports and begs to submit the following report on these reports:

First, report of the Tuberculosis Hospital Committee.

Your committee has reviewed the report of the

Tuberculosis Hospital Committee and recommends its adoption.

I move its adoption.

DR. MILLER: I second it.

The motion was put to a vote and carried.

DR. MANIER: Report of the Liaison Committee. Your committee has reviewed the report of the Liaison Committee and recommends its adoption.

I move its adoption.

DR. BURNS: I second it.

The motion was put to a vote and carried.

THE SPEAKER: Unless you want to discuss these, just to expedite matters, I will not open them for discussion. If anybody wants to discuss these reports, please so signify.

DR. MANIER: Mr. Speaker, I will say this, in trying to report these things, I endeavored to put at the last those things which now, in our judgment, might demand discussion. There are a number of these reports which are just purely a matter of form, being reviewed and reported back to you.

THE SPEAKER: I am trying to make it clear that I am not trying to cut out discussion on any of them.

DR. MANIER: Report of the Insurance Committee.

Your committee has reviewed the report of the Insurance Committee and recommends its adoption and suggests that steps be taken to publicize to the profession the value of the insurance that is being offered to them.

I move the adoption of this report.

DR. BURNS: I second it.

The motion was put to a vote and carried.

DR. MANIER: Report of the Committee on Education.

Your committee has reviewed the report of the Committee on Education and recommends its adoption.

I move the adoption of this report.

DR. BURNS: I second it.

The motion was put to a vote and carried.

DR. MANIER: Report of the Committee on Memoirs.

Your committee has reviewed the report of the Committee on Memoirs and recommends its acceptance after adding to the list of those who have died the name of Dr. Luther Edwards of Finley, Tennessee, which in some way must have been overlooked.

I move the adoption of the report.

THE SPEAKER: And Dr. A. G. Kern. I think he died last October.

SECRETARY SHOULDERS: Our list, as far as we could get it from records, is accurate, but we depend upon local organizations for accuracy in those things.

The motion was put to a vote and carried.

DR. MANIER: Report of the Advisory Committee to the Woman's Auxiliary.

Your committee has reviewed the report of the Advisory Committee to the Woman's Auxiliary and recommends its acceptance.

I move the adoption of that report.

DR. MILLER: I second it.

The motion was put to a vote and carried.

DR. MANIER: Report of the Committee on Industrial Hygiene.

Your committee has reviewed the report of the Committee on Industrial Hygiene and recommends its adoption.

I move the adoption of this report.

DR. MILLER: I second it.

The motion was put to a vote and carried.

DR. MANIER: Report of the Committee on Postgraduate Education in Obstetrics.

Your committee has reviewed the report of the Committee on Postgraduate Education in Obstetrics and the Maternal Welfare Committee and recommends its acceptance.

The committee feels that Dr. J. R. Reinberger is due a vote of thanks for the unusual efficiency and effort expended in making the course in obstetrics a success.

I move the adoption of this report.

DR. BURNS: I second it.

The motion was put to a vote and carried.

DR. MANIER: Report of the Committee on Medical Defense.

Your committee has reviewed the report of the Committee on Medical Defense and recommends its adoption, and that the Chairman, Dr. S. R. Miller, be empowered to make any disposition of the records of this committee he may see fit and to retain for his own use the file case belonging to the committee as a memento for the many years of service he has rendered to this committee.

I move the adoption of this report.

DR. BURNS: I second it.

The motion was put to a vote and carried.

DR. MANIER: Now the Report of the Committee on Postgraduate Instruction in Pediatrics. That is the present course that is in force.

Your committee has reviewed the report of the Committee on Postgraduate Instruction in Pediatrics and recommends its adoption; also that the House of Delegates, in this session go on record as giving to the Board of Trustees of the Tennessee State Medical Association the power to authorize future programs of instruction on the recommendation of the Committee on Instruction. And, further, that the Board of Trustees be empowered to authorize the Committee on Postgraduate Instruction to make necessary arrangements with particular agencies to finance such courses, to select and direct the courses and to employ instructors, provided the Tennessee State Medical Association be obligated not to exceed \$1,500 in any one year.

Before I move the adoption of that, I would like to make this explanation for the benefit of some of you who may not understand just exactly why we made this recommendation. A suggestion to this effect is included in the report of the committee, but they made no definite recommendation.

THE SPEAKER: That is a very important one. Read that once more.

Dr. Manier reread the report.

DR. MANIER: If I may be permitted, Mr. Speaker, to explain our line of thought in making that recommendation, I would say this: that your Committee on Postgraduate Instruction, being a member of it myself, I know has in mind the vision as regards the future and the hope as regards the future of being able to continue these courses for two-year periods on into the future.

Now, if that is to be done, it will become necessary in the future, as it has in the past, to secure outside financial aid. The treasury of this body is not able to bear the full financial burden of those courses. In the past we have secured the major amount, as you know, of this financial aid from the Commonwealth Fund.

Now, it seems that the Commonwealth Fund makes their grants in November and in June. Consequently, if we are to look to the future continuation of these courses, we should get our grant from this participating agency in time to enable us to keep in continuous operation the basic setup of the organization, and that means the field organizer and the office secretary.

Now, if you wait until the next annual meeting of this body, next April, you will then be in the last year of your present course in pediatrics, and when you present your petition at that time to the Commonwealth Fund, they, in turn, cannot act on it until the following November, which would be November, 1940. Even if they did act on it favorably, unless we knew in advance we were going to be able to set up another course, it would be very difficult for the committee to maintain its present organization.

I think it is highly essential that, if we wish to continue these courses which, personally, I think we should, we take steps far in advance so that courses can begin to be planned, and instructors obtained, and the whole program be a matter of continuity.

So, it is for that reason that this Reference Committee went on record as recommending this action to you, though it was suggested in the report. If you had just merely accepted the committee's suggestion, there would be no authorization for continuing the activity as outlined in the Reference Committee's report.

I now want to move the adoption of this report, with that recommendation.

DR. MILLER: I second it.

DR. STANFORD: I would like to ask if that carries with it giving authority to the Board of Trustees to make such arrangements.

DR. MANIER: That is in the motion. It gave the Board of Trustees authority to empower the existing committee to go ahead and make arrangements to set up the course, to employ an instructor, and to do just what they have done, except it gives them that authority in time to keep the courses continuous and not lose the momentum you have already gained.

THE SPEAKER: As I understand it, the Board of Trustees does not interfere with that committee at all.

DR. MANIER: Not a bit. They merely empower that committee to function in that way.

THE SPEAKER: All in favor say "aye"; contrary "no." It is so ordered.

DR. MANIER: The report of the Committee on Legislation and Public Relations.

Your committee has reviewed the report of the Committee on Legislation and Public Relations and recommends its adoption and that this committee be instructed, unless some emergency should arise, not to attempt the passage of any other legislation at the next session of the legislature until and after the proposed Basic Science Act has been introduced and passed.

In connection with this report, your committee feels that the Legislative Committee is due the thanks of the entire Society for their efficiency and untiring efforts before the legislature and we would suggest that some steps be taken to employ some individual during future sessions in the legislature who may serve to relieve the tremendous burden of responsibility and work that under present circumstances is placed upon the chairman and members of this committee.

Now, Mr. Speaker, before moving the adoption of that, I would want to make an explanatory remark. Personally, I served as Chairman of the Legislative Committee for about four years, and what it really comes down to is, when the legislature gets into Nashville, the man who is chairman has a tremendous burden on him, and, if he has any work of his own to do, he can hardly accept that burden efficiently and carry on as he ought to.

It seems to me if the treasury could stand the strain, it would be a good idea for us to have some outside person, call him whatever you wish, an adviser or lobbyist or what not, to help look after the problems that arise. In the first place, the attainment of a proper person of that kind would probably be more influential in legislative circles than any isolated doctor we might be able to place as chairman of the committee.

It is all very well to say that that committee is made up of people from the grand divisions of the state, but those of you in Knoxville, Chattanooga, Memphis, East and West Tennessee have your problems. You cannot afford to give up the time, except for extraordinary things, to come into Nashville and sit around there for three or four days and aid in either passing or combatting legislation.

It really comes down to where the whole burden is pretty largely placed on one man, the chairman, and your Secretary. That is a tremendous burden during the legislative session.

I move the adoption of this report, Mr. Speaker.

DR. MILLER: I second it.

Mr. Chairman, I would like to ask if the committee can tell us anything about what the approximate cost of such an individual would be.

THE SPEAKER: That will have to be gone into, I imagine, Dr. Miller, by the Board of Trustees.

SECRETARY SHOULDERS: I have been an ex-officio member of the Legislative Committee for a number of years. I think it would be a terrible error for us to employ a regular lobbyist and let him go to the capitol with the tag of a lobbyist on him. However, the committee can, from time to time, with your endorsement and approval, employ someone who may be at the same time employed by others, but is not a regular lobbyist; he hasn't that tag. He can deny it, if the question is raised. But it must be done in that very cautious manner suggested by Dr. Stanford. He must not go on the Hill tagged as the lobbyist of medicine in Tennessee. That would be fatal, I think, in its effect. The committee, of course, would pass on the policies that he is to act on at all times, but he could be our representative in his contact with them at hotels and on the Hill and everywhere, in a very effective way. I thoroughly endorse the recommendation.

DR. GARROTT (Cleveland): I would like at this point, if I may, to ask one question in connection with legislative matters. What did or did not the last session of the legislature do for or against the practice of medicine by the osteopaths in the State of Tennessee? There has been quite a bit of confusion that has arisen over in my section. One osteopath informed the local doctors that they had passed a bill to stop them from doing anything but massaging, and he closed his office and at the present time is trying to gain admittance to the University of Tennessee Medical School with the idea of studying medicine and going back to his old location.

The only information I have been able to obtain was through the state pharmaceutical association, and that is to the effect that they passed a law that gave them just as much right to practice medicine and use any medicine or drugs or any methods we enjoy.

I have been instructed by my society to get the true situation and report back to them. I thought this was a very good time to ask for that information.

DR. MANIER: Mr. Speaker, being purely a Reference Committee, I don't know that I can speak to the direct question that Dr. Garrott has asked. I think Dr. Edwards, who is Chairman of the Legislative Committee, is here. If you would call on him to inform you as regards legislation, he probably could do it.

I would want to call this body's attention to this, and it only indirectly answers your question: that is that those of us who have given some thought to that problem become more and more convinced with each year that passes that the fundamental solution of that difficulty is in the passage of your basic science law.

Wherever a proper basic science law has been passed, the ingress or entrance of those cults into the practice of the healing art has been cut down about seventy-five per cent in the first year. That is due to the fact that they do not get the fundamental education that will enable them to pass any reasonable basic science examination.

So far as they are concerned now, if we tried to pass a law that put them out of certain things, they have got money, a lobbyist and everything else, and they would just whip the pants off you up in the legislature.

In passing, that has been the thing that really retarded the passage of your basic science law. I think that is the fundamental answer to your question as regards the future.

DR. GARROTT: I was trying to find out whether that law passed the legislature.

DR. MANIER: I cannot answer. I will have to have your Chairman of the Legislative Committee answer that.

THE SPEAKER: We would like to have Dr. Edwards answer that question. Tell us what the legislature did for the osteopaths in the last session, if you know.

DR. EDWARDS: Unfortunately, Mr. Speaker, I cannot definitely answer the question that the doctor raised. We were quite busy with our own legislation when this bill, sponsored by the osteopaths, was introduced. It was brought to my attention. I looked it over and I went to Senator Brown of Memphis and Senator Newman of Davidson County, who was sponsoring the bill in the Senate. Senator Brown showed me an amendment he was putting in the bill to take out the section that enabled them to register under the Narcotic Act and to prescribe medicine as physician, and promised me that that would be done.

As I said, I did not have an opportunity to follow it through further. When I protested that, he very readily agreed that that was wrong. It has come to my attention since I have been here at this meeting, that it was passed in that form, but I cannot definitely answer that question this morning. I have not seen a copy of the bill as it passed. I do not believe it is in there.

DR. STANFORD: The source of my information is the *Journal of the American Medical Association*, and it did not mention the amendment. They were given permission to use anesthetics for surgery and obstetrics and to prescribe narcotics and biologicals; in other words, it permits them to practice medicine. The *Journal of the American Medical Association* did not mention the amendment.

DR. EDWARDS: Senator Brown, who sponsored the bill in the Senate, had the amendment when I went up there to protest this, and was going to, and did, introduce it while I was there.

DR. STANFORD: My only information is the *Journal of the American Medical Association*. It might have been passed that way.

DR. EDWARDS: I had word he was going to take that out; he never would agree to it, and, also Senator Newman. I will have to look that up.

DR. MANIER: I make a motion, Mr. Chairman, for the adoption of the report of the Committee on Legislation and Public Relations.

DR. STANFORD: I second it.

The motion was put to a vote and carried.

DR. MANIER: Finally, we have the report of the Joint Committee on Hospital Service of the Tennessee State Medical Association and the Tennessee Hospital Association. That, as I get it, is a committee that was joined together by the authorization of this body at its last meeting. They authorized the joint action of our committee with the Tennessee Hospital Committee, largely for the purpose of fostering nonprofit hospitalization programs.

Your committee has reviewed the report of the Joint Committee on Hospital Service of the Tennessee State Medical Association and the Tennessee Hospital Association and recommends its adoption, and that the Committee of the Tennessee State Medical Association, forming a part of this committee on hospital service, be instructed in the future that it is the will of the House of Delegates that our representative on this committee, before endorsing any bill for hospital service, be instructed that such bill must specifically prohibit any interference with, or regulation of, the relationship between a physician or surgeon and his patient, or any interference with or regulation with the relationship between a physician or surgeon and hospital.

Second, that the committee be instructed to oppose any bill relating to hospital service that in any sense carries with it even the possibility of such service regulating or providing in any way for medical service and care of patients other than hospitalization.

Third, that the committee be instructed to oppose any bill providing for profit hospital service corporation, or any bill relating to even nonprofit hospital service in which, in their judgment, provisions are set up which would justify unreasonable or excessive overhead expense or salary.

I move the adoption of this report of the committee.

DR. MILLER: I second it.

The motion was put to a vote and carried.

DR. MANIER: That is the end of the committee's report.

THE SPEAKER: You have done a good job, sir.

AMENDMENT TO BY-LAWS

Dr. H. B. Everett introduced a motion to be considered the next day amending the by-laws in reference to the Medical Defense Committee.

Meeting adjourned to meet at 9 A.M. Thursday.

THURSDAY MORNING MEETING

The third meeting of the House of Delegates convened at 9:15 A.M. with Dr. E. R. Zemp, Speaker, presiding.

The Nominating Committee was called on for its report. Dr. Webb Key, Chairman, made the following nominations for president:

Dr. W. O. Baird, Henderson; Dr. E. G. Kelly, Memphis, and Dr. John C. Pearce, Jackson.

No other nominations were made from the floor. Motion made and carried to close nominations. After a ballot, Dr. Baird was declared elected.

For all the other offices to be filled the committee proposed names. After each nomination by the committee an opportunity was given for other nominations. In no case were others nominated and in each case, the person named by the committee was elected by acclamation. Those so elected were:

Vice-President, West Tennessee—Dr. Julian G. Price, Dyersburg.

Vice-President, Middle Tennessee—Dr. R. B. Gaston, Lebanon.

Vice-President, East Tennessee—Dr. J. E. Carson, Maryville.

Speaker of the House—Dr. E. R. Zemp, Knoxville.

Secretary—Dr. H. H. Shoulders, Nashville.

Trustee from West Tennessee—Dr. J. B. Stanford, Memphis.

Delegate to American Medical Association—Dr. E. G. Wood, Knoxville.

Alternate to American Medical Association—Dr. E. T. Newell, Chattanooga.

COUNCIL OF PUBLIC HEALTH

Dr. Hiram A. Laws, Chattanooga.

Dr. L. E. Dyer, Greeneville.

Dr. R. B. Wood, Knoxville.

Dr. E. M. Fuqua, Pulaski.

Dr. J. H. Jones, Mt. Pleasant.

Dr. W. T. Robison, Murfreesboro.

Dr. J. R. Thompson, Jr., Jackson.

Dr. George Brandon, Lexington.

Dr. Wm. G. Rhea, Paris.

COMMITTEE OF NURSING EDUCATION AND NURSING PRACTICE

Dr. J. D. Brewer, Dyersburg.

Dr. C. D. Walton, Mt. Pleasant.

Dr. E. Dunbar Newell, Chattanooga.

Dr. R. B. Gaston, Lebanon.

Dr. L. E. Coolidge, Greeneville.

MINUTES OF LAST REGULAR SESSION AND SPECIAL SESSION

Moved by Dr. H. B. Everett, seconded by Dr. J. B. Stanford, that the minutes of the 1938 regular

session, and the minutes of the special session in September, 1938, be approved as published in the JOURNAL.

Motion carried without discussion.

AMENDMENTS TO THE BY-LAWS

Section 4, Chapter VIII, of the By-Laws stating the duties and procedure of the Committee on Medical Defense, and the words "Committee on Medical Defense" in Section I, of Chapter VIII were deleted on motion made by Dr. H. B. Everett, amended by Dr. H. H. Shoulders, seconded by Dr. J. B. Stanford, voted and unanimously passed.

SOUTHERN MEDICAL ASSOCIATION

Dr. H. B. Everett called the attention of the House to the meeting of the Southern Medical Association which will be held in Memphis in November.

Dr. H. H. Shoulders moved that the State Society join Memphis as the host of the Southern Medical Association at Memphis. Motion regularly seconded, put to a vote and carried.

SECRETARY SHOULDERS: Mr. Speaker, one report of a committee was passed the other day because the Chairman of that committee was tied up in another committee meeting. He asked me to read it. This is by Dr. Duncan Eve, Chairman of the Fracture Committee.

Secretary Shoulders read the report.

REPORT OF COMMITTEE ON FRACTURES

There is increasing interest being displayed in improved methods of first aid and in the transportation of fracture cases. The Safety Promotion Section of the Department of Motor Vehicles of the State of Connecticut has a bulletin which instructs the laymen to avoid moving an injured person until skilled aid arrives. It is hoped that other states will follow the splendid example set by Connecticut in cautioning against the careless handling of fracture cases.

The proper transportation of fracture cases from the scene of the injury. The City Council of the City of Grafton, North Dakota, has a law that no person, firm, or corporation shall operate any ambulance for the transportation of the sick or injured without having it equipped with first-aid and traction splints approved by the Superintendent of the Board of Health.

The American College of Surgeons is taking up the fracture problem from every angle. We should continue in bringing about improved methods of treating fractures cases and continue to have exhibits pertaining to fractures at our meetings.

DUNCAN EVE.

Dr. C. M. Hamilton and Dr. Hiram A. Laws were appointed to notify Dr. W. O. Baird of his election.

THE WAGNER BILL

DR. HAMILTON: Mr. Speaker, at our meeting the other day in the Radiological Society, we were informed that the Wagner Bill, which has been in-

troduced in the United States Senate, has a provision in it that offers to furnish some 500 diagnostic centers throughout the United States, offering free X-ray and free laboratory facilities, regardless of the bill to be paid.

We took action at this meeting informing our United States Congressmen and Senators of this state that we objected to this part of the bill. I was instructed to bring this question before the House of Delegates. Therefore, I make a motion that we go on record as objecting to that part of the Wagner Bill.

It was also suggested that, if the individual members of the House of Delegates would send letters to Congressmen and Senators from this state, they would have more influence than if we just sent one letter stating the action taken by the body as a whole. I would like to make that motion.

DR. S. R. MILLER: I second the motion.

SECRETARY SHOULDERS: If I am not out of order, I should like to amend the motion submitted, to this extent, that the House go on record as opposed to the passage of the Wagner Bill as now before the Congress on the ground that its provisions as to administration within a state are very vague.

A brief analysis of that Wagner Act appears in the issue of the JOURNAL mailed the fifteenth of this month. You will find these general, vague provisions:

1. That the maternity and infant care provisions which, in reality, appropriate money only, to pass down through, first, the Labor Department at Washington; from that down to a state agency, and from that down possibly to the benefit of others, but there resides and is vested in the department in Washington the power, first, to make the regulations as to the plan for distribution and, second, the power to determine the amount and, third, the power to withdraw it if their regulations are not observed by the state agency. In other words, they are absolute powers, without regard to need. All plans of states must be approved. That same general rule applies to the appropriations for public health, for medical care, and so forth. The medical care provisions are really under the administration of the Social Security Board, and the public health features are under the Surgeon General of the Public Health Service, and so on.

But there are such powers vested in all those administrative agencies, that it seems to me the bill is a dangerous bill.

We have not recorded our attitude in such a way that officers and members of committees could communicate with Congressmen and Senators on the question at all, because the bill, as a bill, has not been presented. We discussed, of course, the bill last year—I mean the program was discussed, but it was never in the form of a bill until the Wagner Bill was presented. You want to instruct your Association to act by influencing Congressmen

on all the features, not only the one that Dr. Hamilton brought to your attention, because that comes from the one group, but other groups in other lines will be equally affected.

I submit an amendment, then, that it be the general bill itself.

DR. HAMILTON: I accept it.

DR. BOGART: Mr. Speaker, I would like to say just a word on this. I think the change in the wording of the amendment as Dr. Shoulders has suggested is a good one because we are all equally interested in the bill.

Dr. Shoulders, if I am not mistaken, the bill has been presented, because I have a copy of it upstairs, with a number on it. It is an actual bill.

SECRETARY SHOULDERS: Oh, yes.

DR. EVERETT: At this time, but it was not last year.

SECRETARY SHOULDERS: Last year it was a proposal. Today it is a bill.

DR. BOGART: I misunderstood you. I do think it is important for us to take action, but, what is more important, that some effort be made to get as many of the individual doctors as possible throughout the state to write these letters.

I would like to suggest, after we have passed this motion, and I am sure we are going to, that the Secretary's office communicate with the various secretaries throughout the state and urge them to get their individual members to write these letters because we all know that if a Congressman or a Senator (and right now it is a bill in the Senate) gets fifty individual letters, it has a lot more effect upon him than if he gets one letter saying that such-and-such organization has passed a resolution.

SECRETARY SHOULDERS: Mr. Speaker, I am going to ask Dr. Bogart to revise his recommendation to this extent, that every delegate here go back to his society and not only do what Dr. Rock Sleyster said, report some of its actions, but, in addition, instruct them as to what has happened here this morning, instead of the letter going out from our office, because it may go into the wastebasket. Let the delegates here go home and tell their doctors at the very first meeting.

DR. BOGART: That is all right, too, that is fine, but I think this other thing should be done, too, because there are a lot of secretaries of county associations that are not at this meeting.

SECRETARY SHOULDERS: I wanted these fellows to do it, too. Don't you think so?

DR. GARROTT: While we are discussing this Wagner Act, there is the matter of qualifications of hospitals which shall be recognized for administration of benefits to the group of people which will be helped by the fund.

As the bill now stands, it states that the hospitals will be in position to accept those patients,

with the promise from the government that their expenses will be paid, whatever rate is decided upon. That hospital has to be one that is approved either by the American College of Surgeons or the American Medical Association. Understand, I do not own a hospital; I hope I never do; but I am from a community where there are two small hospitals. There are several communities not so far remote from me that have small hospitals, that are not interested in running a training school, don't care to run a training school for nurses. Most of the nursing done in those hospitals is done by graduate nurses, yet they do not have, a lot of them, the bed space, the number that is required to be recognized by the American College of Surgeons. They don't have some other things that would be recognized, but they have been created by qualified, reputable men; efficient nursing and laboratory service is provided.

I feel that those hospitals, particularly, for the benefit of the beneficiaries of the fund, could be accepted where they are so managed. Take, for instance, in my town of Cleveland. Quite a few of those people would be benefited by such a fund. They do not have enough money to get a taxi, let alone bus fare to go to Chattanooga, so what good is hospital service forty or fifty miles away going to be to them?

While we are considering protests and objections, I think it might be worth while to consider the advisability of having some change made in the matter of qualifications of hospitals. I would like to bring that up.

If any of you feel so inclined to discuss it further, or if you think the matter over and want to mention it in the communication to your Congressman and Senator, I think the point is well worth considering.

THE SPEAKER: Are you ready for the question? All in favor say "aye"; contrary "no." It is on record that this House opposes the Wagner Bill as it now exists.

NEXT MEETING PLACE

Dr. Hiram A. Laws, in behalf of the Hamilton County Medical Society, invited the Association to meet in Chattanooga in 1940. Moved by Dr. J. B. Swafford that the invitation be accepted, seconded, voted upon and carried.

THANKS TO THE MADISON COUNTY MEDICAL SOCIETY

Moved by Dr. H. B. Everett that we thank the Madison County Medical Society for their hospitality and the fine way in which they have handled the meeting at this time.

The motion was seconded, voted upon and carried.

PRESIDENT-ELECT BAIRD

Dr. Hiram A. Laws presented the newly-elected president. The House arose and applauded.

THE SPEAKER: Mr. President-elect, we give you one minute now and an hour next year.

PRESIDENT-ELECT BAIRD: Mr. Speaker and Members of the House of Delegates, I wish to thank you sincerely for the great honor you have bestowed upon me, and I appreciate it very much. I trust that we shall have your full cooperation to do the very best for the organization within the next twelve months. Hope to see you at Chattanooga. I thank you.

COMMITTEE ON RESOLUTIONS

The Chairman, Dr. Thompson. The first resolution:

"Be It Resolved, That the House of Delegates of the Tennessee State Medical Association in session in Jackson, Tennessee, April 11-13, 1939, recommend that Congress in the near future votes the necessary appropriations to complete the new Army Medical Library and Museum Building authorized by the Seventy-fifth Congress and approved by the President, June 15, 1938."

I move the adoption.

DR. EVERETT: I second it.

The motion was put to a vote and carried.

DR. THOMPSON: "In regard to affiliate fellowship in the American Medical Association.

"Be It Resolved, That any duly elected honorary member of the Tennessee State Medical Association shall be presented and recommended at the next meeting of the House of Delegates of the American Medical Association.

"We specifically recommend that Dr. S. E. Gaines, Sparta, Tennessee; Dr. Fred B. Stapp, Chattanooga, Tennessee, be recommended at the next meeting of the House of Delegates of the American Medical Association."

SECRETARY SHOULDERS: That should be veteran member.

DR. THOMPSON: That will be changed.

I move that this be adopted.

DR. SCHRAM: Isn't a fellowship not a veteran?

THE SPEAKER: It is fellowship in the American Medical Association, but members here.

DR. STANFORD: We have a number of veteran members besides those two. Why not just include all veteran members who are certified by their component societies without specifically mentioning names?

DR. THOMPSON: The first part takes care of contingencies that might arise, and the second part takes care of the two specific instances that occurred in this House.

SECRETARY SHOULDERS: I will make this point. The delegates to the American Medical Association want specific instructions as to what their action should be. If local societies have taken the proper action to make them veteran members, and then this House has taken proper action to make them members, I think the delegates to the American Medical Association could consider themselves instructed accordingly.

DR. STANFORD: I wanted it specific. You have a list of those that were certified.

THE SPEAKER: Are you ready for the question? All in favor say "aye"; contrary "no." It is so ordered.

DR. THOMPSON: This is the last one.

"Be It Resolved, That the Legislative Committee be empowered to engage such necessary legal advisers that they deem necessary in the process of carrying on their work."

I move it be adopted.

DR. EVERETT: I second it.

The motion was put to a vote and carried.

DR. WILLIS H. THOMPSON INTRODUCED

THE SPEAKER: Gentlemen, Dr. Smith wishes to introduce Dr. Thompson to this House.

DR. SMITH: Gentlemen, Dr. Thompson comes to us from the University of Minnesota, where he has served in the capacity of assistant professor of pediatrics. He has been selected by your Committee on Postgraduate Education to conduct the courses over the state in pediatrics. Any attempt

on my part to speak of his accomplishments and qualifications would be out of order. Whenever your committee has selected a man for that place, it speaks for itself. I have the pleasure to present to you Dr. Thompson.

THE SPEAKER: Dr. Thompson, I want to assure you that you will have the full and hearty cooperation of all the delegates and members of this Association.

Gentlemen, I think that completes the work for this session. I want to congratulate you on the speed with which we have carried out the work that was assigned to us.

I again want to thank you for the honor you have bestowed upon me. I have tried to rule with fairness and justice to all and, as long as you continue me in this position, that policy shall be continued.

I hope you will all have a pleasant summer, and that a great many of you will come up and see the National Park and the great Norris Dam that we have up there. I am sure it will do you good physically, mentally, and morally. Good-by!

The meeting adjourned at ten o'clock.

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THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

1. *The establishment of an agency of federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the army and navy.*

Today the medical and health functions of the United States are divided among a multiplicity of departments, bureaus, and federal agencies. Thus, the United States Public Health Service is in the Federal Security department; the Maternal and Child Welfare Bureaus in the Department of Labor; the Food and Drugs administration in the Department of Agriculture; the Veterans' Administration and many other medical functions are separate bureaus of the government. The WPA, CCC, and PWA are concerned with a similarity of efforts in the field of preventive medicine. The Federal Works Administration and the Federal Housing Administration also have some medical functions.

Since 1875, the American Medical Association has urged the establishment of a single agency in the federal government under which all such functions could be correlated in the interest of efficiency, the avoidance of duplication, and a saving of vast sums of money. Such a federal health agency, with a secretary in the cabinet, or a commission of five or seven members, including competent physicians, would be able to administer the medical and health affairs of the government with far more efficiency than is now done.

2. *The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health, and the care of the sick on proof of such need.*

The physicians of the United States have given freely of their time and of their funds for the care of the sick. Their contributions to free medical service amount to at least \$1,000,000 a day. The physicians of this country have urged that every person needing medical care be provided with such care. They have urged also the allotment of funds for campaigns against maternal mortality, against venereal disease, and for the investigation and control of cancer. The medical profession does not oppose appropriations by Congress of funds for medical purposes. It feels, however, that in many instances states have sought aid and appropriations for such functions, without any actual need on the part of the state, in order to secure such federal funds as might be available. It has also been impossible, under present technics, to meet actual needs which might exist in certain states with low per capita incomes, with needs far beyond those of wealthier states, in which vast sums are spent.

It is proposed here simply that Congress make available such funds as can be made available for health purposes; that these funds be administered by the federal health agency, mentioned in the first plank of this platform, and that the funds be allotted on proof of actual need to the federal health agency, when that need be for the prevention of disease, for the promotion of health, or for the care of the sick.

3. *The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.*

Obviously, if federal funds are made available to the individual states for the purposes mentioned in the second plank of this platform, there might well be a lessened tendency in many communities to devote

the community's funds for the purpose, and, in effect, to demand that the federal government take over the problem of the care of the sick. Hence, it is suggested that communities do their utmost to meet such needs with funds locally available before bringing their need to the federal health agency, and that the federal health agency determine whether or not the community has done its utmost to meet such need before allotting federal funds for the purpose.

4. *The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.*

The medical profession is not static. It wishes to extend preventive medical service to all of the people within the funds available for such a purpose. Obviously, this will require not only a federal health agency which may make suggestions and initiate plans, but also a mechanism in each community for the actual expansion of preventive medical service and for the proper expenditure of funds developed both locally and federally. In the development of new legislation such mechanism may be suitably outlined.

5. *The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.*

The medical profession does not yield to any other group in this country in its desire to extend medical care to all of those unable to provide themselves with medical service. The American Medical Association through its House of Delegates has already recognized the possible existence of a small group of persons able to provide themselves with the necessities of life commonly recognized as standard in their own communities, but not capable of meeting a medical emergency. It is recognized, however, that only persons of the same community fully fa-

miliar with the circumstances can determine the number of people who come properly under such classification and that only persons in actual contact with such instances are capable of administering suitably and efficiently the medical care that may be required. Hence it is the platform of the American Medical Association that medical care be provided for the indigent and the medically indigent in every community but that local funds be first utilized and that local agencies determine the nature of the need and control the expenditure of such funds as may be developed either in the community or by the federal government.

6. *In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.*

In the so-called National Health Program it is asserted that one-half the counties of the United States are without suitable hospitals, and vast sums are requested for the building of new hospitals. In contrast, reputable agencies within the medical profession assert that there are only thirteen counties more than thirty miles removed from a suitable hospital and that in eight of those thirteen counties there are five people per square mile. In the United States today the percentage of hospital beds per 1,000 of population is higher than that of any other country in the world. This fact is completely ignored by those who would indulge in a program for the building of great numbers of new hospitals.

Moreover, it seems to be taken for granted that hospital building has languished in recent years, whereas considerable numbers of hospitals have been built with federal funds by various state agencies and also by the PWA, the WPA, and by the Federal Works Administration.

Analyses may indicate that in many instances such hospitals were built without adequate study as to the need which existed

or as to the possible efficient functioning once it was erected. Moreover, there is evidence that in recent years many of the hospitals of the United States known as non-profit voluntary hospitals have had a considerable lack of occupancy due no doubt to the financial situation in considerable part. It seems logical to suggest then that such federal funds as may be available be utilized in providing the needy sick with hospitalization in these well-established existing institutions before any attempt is made to indulge in a vast building program with new hospitals. In this point of view the American College of Surgeons, the American Hospital Association, the Catholic Hospital Association, the Protestant Hospital Association and practically every other interested voluntary body agree.

Again it has been argued that the demands for medical care in some sections of the country might require the importation of considerable numbers of physicians or the transportation of numbers of physicians in the areas in which they now are to other areas. In this connection it would seem to be obvious that a change in the economic status of the communities concerned would result promptly in the presence of physicians who might be seeking locations. The utilization of existing qualified facilities would be far more economical than any attempt to develop new facilities.

7. *The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.*

In the United States today our sickness and death rates are lower than those of any great country in the world. This fact was recognized by the president of the United States when he sent the National Health Program to the Congress for careful study. The president emphasized that a low death rate may not mean much to a man who

happens to be dying at the time of tuberculosis. The medical profession recognizes the importance of doing everything possible to prevent every unnecessary death. At the same time it has not been established by any available evidence that a change in the system of medical practice which would substitute salaried government doctors for the private practitioner or which would make the private practitioner subject to the control of public officials would in any way lower sickness and death rates.

There exists, of course, the fact that some persons are unable to obtain medical service in the circumstances in which they live and that others, surrounded by good facilities, do not have the funds available to secure such services. Obviously here again, there is the question of economics as the basis of the difficulty and perhaps lack of organization in distribution of medical service and a failure to utilize new methods for the distribution of costs which might improve the situation.

The medical profession has approved payment plans to cover the costs of hospitalization and also prepayment plans on a cash-indemnity basis for meeting the costs of medical care. It continues, however, to feel that the development of the private practice of medicine which has taken place in this country has led to higher standards of medical practice and of medical service than are elsewhere available and that the maintenance of the quality of the service is fundamental in any health program.

8. *Expansion of public health and medical services consistent with the American system of democracy.*

Careful study of the history of the development of medical care in various nations of the world leads to the inevitable conclusion that the introduction of methods such as compulsory sickness insurance, state medicine, and similar technics results in a trend toward communism or totalitarianism and away from democracy as the established

form of government. The intensification of dependence of the individual on the state for the provision of the necessities of life tends to make the individual more and more the creature of the state rather than to make the state the servant of the citizen. Great leaders of American thought have repeatedly emphasized the fact that liberty is too great a price to pay for security. George Washington said, "He who seeks security through surrender of liberty loses both." Benjamin Franklin said, "They that can give up essential liberty to obtain a

little temporary safety deserve neither liberty nor safety."

In these times when the maintenance of the American democracy seems to be the most important objective for all the people of this country, the people may well consider whether some of the plans and programs that have been offered for changing the nature of medical service are not in effect the first step toward an abandonment of the self-reliance, free will, and personal responsibility that must be the basis of a democratic system of government.

THE JOURNAL

OF THE

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H. H. SHOULDERS, M.D., Editor and Secretary

DECEMBER, 1939

THE ISSUE

SHALL PATIENTS AND DOCTORS RETAIN THEIR FREEDOM OF JUDGMENT IN THE MATTER OF MEDICAL CARE, OR SHALL THIS FREEDOM BE SURRENDERED TO SOME GOVERNMENTAL AGENCY?

EDITORIAL

THE CONFERENCE OF SECRETARY-EDITORS

The conference of secretary-editors, which is held each year, under the auspices of the American Medical Association, was held in Chicago, November 17 and 18.

Many matters of vital importance to the medical profession of this country were discussed.

The subject of medical service plans of state and county medical societies was a feature of the program.

The states of New Jersey, Michigan, and Washington each have inaugurated a plan.

It is fair to state that none of these plans have been in operation for a sufficient length of time to enable one to draw conclusions as to their merits or demerits.

There is an old philosophy to the effect that "everything in the world that is potent for good is also potent for evil." Such a philosophy we know applies to the most useful drugs. For example, morphine and anesthetics. It applies with equal force to plans for medical care.

We feel disposed to applaud the efforts of the medical profession in these states in their attempt to solve this problem of medical economics. At the same time, we shall observe with great interest the developments which take place as time goes by.

Experience in good times and in bad times, and in widely scattered communities in the nation, will, in time, afford something on which to base sound conclusions as to their merits and demerits. Experience will be the determining factor.

We do not feel that all other states should feel that they are backward and neglectful because they fail to rush into the adoption of some plan which appears to be plausible. This is a situation in which experience will be of far more value than statistical tables or the most astute planning. Prudence and caution are virtues also.

A sufficient amount of experience has been accumulated with reference to plans for hospitalization to state that they are sound projects when properly planned and administered, but a plan for twenty-one days of hospitalization in any one year is a much simpler matter than one which provides for the delivering of all forms of medical care throughout the year.

THE SOUTHERN MEDICAL ASSOCIATION MEETING AT MEMPHIS

The Memphis and Shelby County Medical Society is entitled to much credit for having performed the arduous task of acting as host to the Southern Medical Association.

In addition to acting as host, the local profession put on a most creditable clinical program on Monday. The numbers were well prepared, on live topics, and run through with dispatch.

We have heard nothing but the most favorable comment from doctors who attended the sessions at Memphis.

There are only a few cities in the South with facilities adequate to accommodate the Southern Medical Association, and there is no local society in the South which could have performed better than the Memphis and Shelby County Medical Society did.

"THE ELLETT DAY"

Desiring to honor the great while still living, some of the friends and associates of Dr. E. C. Ellett arranged a program called "Ellett Day" at the recent meeting of the Southern Medical Association in Memphis. The first program of the eye, ear, nose, and throat section was given Dr. Ellett's name, and at the conclusion of the regular papers, four of those present spoke of various phases of Dr. Ellett's life and accomplishments. Dr. Walter R. Parker of Detroit, Michigan, a schoolmate and fellow intern, reminisced of their school and hospital days; Dr. Harvey B. Searcy of Tuscaloosa, Alabama, spoke of his early days in Dr. Ellett's office; Dr. Grady E. Clay of Atlanta, Georgia, who served under Dr. Ellett in France, told of the colonel's status in the World War; and Dr. James B. Stanford, another former associate, spoke of the influence of Dr. Ellett on the practice of medicine in Memphis.

THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

There seems to be some misunderstanding with reference to the platform of the American Medical Association.

When this platform was announced, many doctors seem to have formed the opinion that this action represents a departure from former policies of the Association. This is not the case. As a matter of fact, the so-called platform consists of eight statements of principle. These have been acted upon by the House of Delegates—some of them repeatedly.

In the last few years the propagandists have convinced many lay people, and several members of the medical profession, that the American Medical Association has followed a policy of doing nothing and opposing the actions of those who were attempting to do something.

Much publicity has been given the statements of the Association in opposition to pending legislation, but little or no publicity has been given to statements which were positive in character. It was, therefore, appropriate and wise that the positive attitude of the medical profession on many

questions be stated separate and apart from statements of opposition.

This action should clarify the atmosphere a great deal.

They are reproduced in this issue of the JOURNAL.

A CHRISTMAS GREETING!

May we use this space and this method of expressing a Christmas greeting to the members of the Tennessee State Medical Association on behalf of the office force.

DR. H. H. SHOULDERS

DR. W. M. HARDY

MISS WILLARD BATEY

BEWARE!

The following letter has been received and is self-explanatory:

"Trenton, Missouri

"Dear Doctor:

"I am writing you regarding a man who is running around through the country buying glasses, especially from oculists, usually giving a check to the amount of thirty dollars. This man tries to simulate a farmer, and he usually has a notation on the check for corn, cow, hogs, etc. The name on the check to him is no doubt forged and there is no doubt his endorsement on the back of the check is forged. The man is about five feet, nine or ten inches tall, weighs about 155 pounds, light sandy hair, blue eyes, smooth shaven, with a ruddy complexion.

"Should this man come into your office, making an attempt to cash such check as the above description, unless proven to be absolutely authentic, please notify the sheriff of Nodaway County, Maryville, Missouri, or the sheriff of Grundy County, Trenton, Missouri.

"He usually signs his name on the back of the check in a very rough, but plainly legible hand and signs it W. C. Curran, and he usually wishes the difference between the amount of the check and the price of the glasses in cash, but does not call for the glasses. Should he sign his name and such a check be presented to you, please have the sheriff to intercept him.

"Should you have any information regard-

ing a man of his description passing checks of the above description, please inform the sheriffs above named, Dr. R. C. Pearson, Maryville, Missouri, or myself.

"Thanking you, I am

"Very truly yours,

"(Signed) HERBERT C. KIMBERLIN, M.D."

NOTES ON POSTGRADUATE INSTRUCTION IN PEDIATRICS

The postgraduate course in pediatrics, sponsored by the Tennessee State Medical Association, will move to Middle Tennessee about January 1. By this date four circuits will have been completed with a total of 421 doctors having enrolled for the course.

The next circuit will be given in the following centers, meetings being held with the doctors enrolled once each week for ten weeks at the places and hours specified:

Gallatin, January 1, 7:00 P. M.

Springfield, January 2, 2:00 P. M., at Robertson County Hospital.

Clarksville, January 3, 7:00 P. M., at Clarksville Hospital.

Nashville, January 4, 8:00 P. M., at Nashville General Hospital.

Dickson, January 5, 7:00 P. M., at First National Bank Building.

It is desirable that all who plan to enroll for this circuit sign enrollment cards and send them with checks for the enrollment fee to the clinic chairman or the office of the postgraduate committee, 420 Sixth Avenue, North, Nashville, Tennessee, as soon as possible in order that notices may be mailed out to enrollees, reminding them of the time of meetings.

DEATHS

DR. J. H. BUCHANAN

Dr. J. H. Buchanan Memphis; University of Tennessee, College of Medicine, 1932; aged thirty-three; died November 9 as a result of an automobile accident.

DR. J. J. WALLER

Dr. J. J. Waller, Oliver Springs; South-

ern Medical College, Atlanta, 1892; aged seventy-two; died December 7.

DR. J. A. REYNOLDS

Dr. J. A. Reynolds, Chattanooga; Indiana University School of Medicine, 1924; aged forty-seven; died December 7.

NEWS NOTES AND COMMENTS

Dr. Chas. C. Smeltzer announces opening of offices at 605 Walnut Street, Knoxville, for the practice of surgery and medicine.

CHANGES OF ADDRESS

Dr. H. H. Hudson, Murfreesboro, to Dyersburg, Tennessee.

Dr. W. E. Turner, Lobelville, to Piggott, Arkansas.

Dr. John A. Conroy, 217 Western Avenue, Cambridge, Massachusetts, to 183 Tremont Street, Newton, Massachusetts.

WOMAN'S AUXILIARY

At this time our thoughts are directed to the coming Christmas season. Let us not forget its meaning—good will to men. The truest joy of Christmas is not found in receiving, but in giving. The happiest people are those who make others happier. If we learned to keep Christmas truly in our hearts, we should become measureless blessings to the world. Nothing in life could ever quench our joy or dim the light of our peace. A poet tells us of hearing music wherever he went:

Let me go where'er I will
I hear a sky-born music still;
It is not only in the rose,
It is not only in the bird,
But in the darkest, meanest things,
There always, always something sings.

Such an experience is possible only when we have the music in our own souls. May this season be a joyful one for us all—full of kindly thoughts and inspirations.

DAVIDSON COUNTY

Over 150 guests attended the membership tea which the Woman's Auxiliary of the Nashville Academy of Medicine and Davidson County Medical Society gave December 3 at the home of Mrs. W. R. Cate on Graybar Lane. Mrs. Cleo Miller was general chairman. Pouring tea was Mrs. I. T. Altman, Mrs. S. S. Crockett, Mrs. George Price, and Mrs. J. C. Savage, assisted in serving by Mrs. W. B. Anderson, Mrs. B. F. Byrd, Mrs. T. F. Frist, Mrs. Hamilton Gayden, Mrs. J. P. Gilbert, Mrs. David Hailey, Mrs. Theodore Morford, Mrs. T. D. McKinney, Mrs. H. E. Patey, and Mrs. W. O. Tirrell, Jr.

PRESIDENT'S REPORT OF THE EXECUTIVE BOARD MEETING IN CHICAGO

The annual fall meeting of the Executive Board of the Woman's Auxiliary to the American Medical Association was held in Chicago on November 17 at the Palmer House. It was a most interesting meeting, Mrs. Rollo K. Packard, national president, presiding at the business sessions. Fifteen states were represented with reports from their presidents.

In the reports I noticed that speakers' bureaus were very generally used and enjoyed by the auxiliaries. I wish each of the county medical societies in Tennessee would appoint speakers' bureaus. So far we have only one and that in Memphis. In many cases the president of the state association appoints the speakers for the state and any city can call on a speaker from the group.

Much discussion centered about the Wagner Bill. The fact that it may be urged on the American Federation of Women's Clubs for endorsement made the discussion more heated. It was urged that every doctor's wife procure an adequate synopsis of this bill and become familiar with it. It was urged that it be made a subject of study at the local auxiliary meetings.

Plans were made at this meeting for the national convention in New York next June.

RUTHERFORD COUNTY

Mrs. J. B. Black, wife of the director of the Rutherford County Health Department,

has been chosen to fill the unexpired term as president of the Woman's Auxiliary to the Stone's River Academy of Medicine left vacant when Mrs. H. H. Hudson, former president, moved to Jackson.

Mrs. J. F. Adams of Woodbury was chosen secretary of the Auxiliary preceding the business session. Members of the Auxiliary went to the lecture room of Rutherford hospital, where they heard Dr. John Cason speak on the "Value of Pneumothorax in the Control and Treatment of Tuberculosis." Dr. Cason explained that this study was his "hobby in medicine" and detailed methods of its treatment and prevention, illustrating his lecture with X-rays of patients being treated at the Rutherford Clinic. He concluded his discussion with the actual treatment of a patient of the clinic.

Mrs. J. A. Scott presided over the meeting.

Mrs. John Cason and Mrs. W. T. Robison, assisted by Miss Martiel Sharpe of the hospital staff, were hostesses.

SHELBY COUNTY

The November meeting of the Woman's Auxiliary to the Memphis and Shelby County Medical Society held at the University Center proved most interesting and enjoyable. Mrs. Walter A. Ruch, president, presided.

Mrs. Henry G. Hill discussed an original version of "Doctor's Buggy." Mrs. Willis C. Campbell, general chairman of entertainment of the visiting doctors' wives attending the southern medical, left final instructions for her committee.

Following the meeting a delicious luncheon was served by Mrs. W. T. Braun, Jr., Mrs. Samuel Blackwell, and Mrs. Edwin J. Lipscomb.

MEDICAL SOCIETIES

Dyer, Lake, and Crockett Counties:

The Dyer, Lake, and Crockett County Medical Society met on December 6. The following papers were read:

"Staphylococcal Infection," by Dr. William C. Colbert, Memphis.

"The Mechanism of Production of Clinical Irregularities of the Heartbeat," by Dr. Whitman Rowland, Memphis.

"The Differential Diagnosis of Influenza," by Dr. Duane Carr, Memphis.

Officers for 1940 were elected.

Greene County:

The Greene County Medical Society met in Country Club House, Greeneville, November 7, at 6:30 P. M. After an excellent dinner, the following program was given:

"The Use of Sulfapyridine in the Treatment of Pneumonia," by Dr. John A. Brabson.

"Undulant Fever," by H. W. Fox.

Each of these excellent papers was freely discussed.

(Signed) M. A. BLANTON, M. D.

Hardin, Lawrence, Lewis, Perry, and Wayne Counties:

The Five-County Medical Society met in Savannah on November 28, and the following papers were read:

"Prostatic Backache," by Dr. Bernard L. Green, Jackson.

"Surgical Treatment of Peptic Ulcer," by Dr. R. B. White, Jackson.

Officers for 1940 were elected, as follows:

President—Dr. J. V. Hughes, Savannah.

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Vice-president, Wayne County—Dr. J. T. Keeton, Clifton.

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Delegate—Dr. O. H. Williams, Savannah.

Alternate—Dr. C. C. Stockard, Lawrenceburg.

Future meetings will be held in the evenings. The next meeting will be at Waynesboro on January 30, 1940.

Knox County:

November 14: "Rectal Pain," by Dr. J. M. Stockman. Discussed by Drs. L. A. Haun and Chas. F. Clayton.

November 21: "The Relation of Diet to Hematogenous Bilateral Kidney Disease," by Dr. George Henson. Discussed by Drs. G. A. Williamson, E. R. Zemp, and Dan Thomas.

November 28: "Hodgkin's Disease," by Dr. Eugene Abercrombie. Discussed by Hugh Reaves.

Smith County:

The Smith County Medical Society met recently and elected new officers for the year 1940, as follows:

President—Dr. Lillard Sloan, Carthage.

Vice-president—Dr. R. E. Garrett, Dixon Springs.

Secretary-treasurer—Dr. Thayer S. Wilson, Gordonsville.

Delegate—Dr. A. O. Parker, Brush Creek.

Alternate—Dr. R. E. Key, Carthage.

OTHER MEDICAL SOCIETIES

ABSTRACTS OF PAPERS PRESENTED AT VANDERBILT MEDICAL SOCIETY NOVEMBER 3, 1939

1. Case Report: "A Case of Actinomycosis Treated with Sulfanilamide," by Dr. Delmar R. Gard.

An eleven-year-old white girl was admitted to the hospital on April 4, 1939, with "sores" on chest, foot, hip, and face. Smears from chest showed sulphur granules typical of actinomycosis. Also, a biopsy from a sinus in the hip contained sulphur granules. An X-ray of the chest showed rather marked pulmonary infiltration. Her tuberculin test was negative to one milligram. The child was placed on sulfanilamide and given 256 grams during the next two and one-half months. There was marked improvement of all lesions, including the infiltration in the chest. The child has been seen several times since discharge from hospital, and her improvement has continued.

This case was discussed by Drs. Horton Casparis and Hugh Morgan.

2. "Preliminary Observations on Rabies in the Chick Embryo," by Dr. James R. Dawson, Jr.

The experiments show that rabies virus may be established and maintained indefinitely in developing chick embryos, and that infection so produced is associated with specific cytological changes which are characteristic of rabies. During its adaptation to and maintenance in chick embryos, the virus is modified selectively; there is a preservation or actual enhancement of virulence for the chick embryo, the mouse, and the dog, but there is a decrease in virulence for the rabbit. This decrease in virulence for the rabbit is of such a degree that an intracranial injection of the virus produces a nonfatal self-limited infection which renders the animal immune to a second intracranial inoculation of highly virulent material.

This paper was discussed by Drs. E. W. Goodpasture, W. S. Leathers, and Katharine Dodd.

3. "The Effect of Pressure Upon Living Tissues," by Drs. Barney Brooks and George W. Duncan.

Because of the previous negligence of mechanical factors in clinical surgery, such as pressure from plaster casts, growing tumors, and inflammatory diseases, the influence of low and moderate pressure upon various tissues was studied. Albino rats were used as experimental animals. The pressure applied varied from twenty milligrams to 2,045 milligrams mercury. It was found that a pressure of 130 milligrams mercury applied for a period of seventeen to eighteen hours uniformly produced complete necrosis. By prolongation of the time of application to forty-eight hours, the pressure could be lowered to 100 milligrams mercury and complete necrosis obtained. Lower pressure applied for shorter periods produced epithelial hyperplasia and an inflammatory reaction with resulting fibrosis,

most marked in the muscles. It was found that by lowering the temperature of the tissue to zero to two degrees C. the development of gangrene was prolonged two or three times the length of the time required for its production at room temperature. These effects of low and moderate pressures were attributed chiefly to the influence of anoxia on tissues, and by lowering the temperature the metabolic rate of the cells was lowered, thus prolonging the time of development of necrosis. In subsequent experiments the effect of temperature elevation, nutrition, and fluid balance will be studied.

This paper was discussed by Drs. E. W. Goodpasture, Walter E. Garrey, C. S. Robinson, Tinsley R. Harrison, Beverly Douglas, Herbert S. Wells, and Ralph M. Larsen.

COMING MEETINGS

American Board of Ophthalmology, Application before 1940. Dr. John Green, 6830 Waterman Avenue, St. Louis, Missouri.

American Medical Association, New York, June 10-14, 1940. Dr. Olin West, 535 North Dearborn Street, Chicago, Illinois, secretary.

Annual Congress on Industrial Health, Chicago, January 15, 16. Dr. C. M. Peterson, 535 North Dearborn Street, Chicago, secretary.

Midsouth Postgraduate Medical Assembly, Memphis, February 13-16, 1940. Dr. A. F. Cooper, Goodwyn Institute Building, Memphis, secretary.

Southern Section, American Laryngological, Rhinological, and Otological Society, Columbia, South Carolina, January 8, 9. Dr. Walter J. Bristow, Doctors Building, Columbia, South Carolina, chairman.

Tennessee State Medical Association, Chattanooga, April 9-11, 1940. Dr. H. H. Shoulders, 508 Doctors Building, Nashville, secretary.

West Tennessee Medical and Surgical Association, Jackson, May, 1940. Dr. George R. McSwain, Paris, secretary.

EXAMINATIONS

American Board of Obstetrics and Gynecology, January 6, 1940. Dr. Paul Titus, 1015 Highland Building, Pittsburgh, Pennsylvania, secretary.

Tennessee State Board of Medical Examiners, Memphis, December 20, 21. Dr. H. W. Qualls, Secretary, 130 Madison Avenue, Memphis.

ABSTRACTS OF CURRENT LITERATURE

ANESTHESIA

By HUGH BARR, M.D.
Medical Arts Building, Nashville

The Treatment of Acute Barbiturate Poisoning. Perry P. Volpito, *Current Researches in Anesthesia and Analgesia*, July-August, 1939.

Barbiturates are divided into the long-acting, such as luminal and veronal; intermediate, such as neonal, dial ipral, alurate, and amytal; and the short-acting, including nembutal, phanodorn, ortal, and seconal. Also there are the ultra-short, including sodium evipal, sodium pentothal, and the thio derivative of amytal. Narcosis caused by the long-acting barbiturates may be followed by pulmonary congestion, and the shorter-acting ones may cause respiratory and circulatory depression.

The author recommends the following treatment for the untoward effects of overdosage of these drugs: adequate respiratory exchange by artificial respiration if necessary, five per cent glucose in normal saline, maintain body heat, oxygen, gastric lavage, nursing care, and frequent change of position. He mentions the use of such analeptics as ephedrine, epinephrine, coramine, lobeline, cyanide, metrazol, picrotoxine, and also mentions carbon dioxide.

The analeptics may be detrimental if given in overdosage. Picrotoxine and metrazol are of undisputed value, while coramine may be dangerous.

DERMATOLOGY

By E. E. BROWN, M.D.
Doctors Building, Nashville

Chronic Streptococcic Ulcer of the Skin Unresponsive to Local Therapy But Cured by Sulfanilamide: Report of Two Cases. M. H. Goodman. *J. A. M.*, 111 (Oct. 15), 1938.

The author isolated a beta hemolytic streptococcus in the cases of two patients with chronic cutaneous ulcers for which prior treatment had failed. The lesions were markedly inflamed, slowly necrosing and undermined, with an irregular serpiginous border and an uneven base covered with copious thin yellowish serous fluid. Further local and systemic measures failed to effect any improvement. In one case cure resulted when sulfanilamide was administered for about five weeks; in the second case almost three months' treatment with sulfanilamide was required for complete healing of the lesion.

NOTE: I have used sulfanilamide in the form of an ointment, applied locally to some chronic skin ulcers that had failed to respond to other treatments. The results were remarkable.

OBSTETRICS AND GYNECOLOGY

By HAMILTON V. GAYDEN, M.D.
Suite 234 Doctors Building, Nashville

The Relationship of the Time of Ligation of the Cord to the Red Blood Count of the Infant. H. B. Frischkorn and M. P. Rucker. *American Journal of Obstetrics and Gynecology*, Vol. 38, p. 592, 1939.

Tarnier taught that to tie the cord at once deprived the infant of the blood that was left in the engorged placenta, which with more patience would have returned to the body of the infant. For a number of years one of us has noticed a marked variation in the number of red blood cells of the newborn infant. Apparently neither the method of delivery nor the type of anesthetic had anything to do with it. The present study was undertaken in hopes of throwing some light on this subject. We repeated Schuckling's experiment of weighing the baby immediately and after the cord ceased pulsating. It was easy to demonstrate a definite gain in weight when the cord ceased to pulsate. The less blood that is left in the umbilical vessels the higher will be the red blood cell count of the infant. If the umbilical vessels are allowed to cease pulsating and collapse before they are ligated, very little blood will drain out of them. In infants whose umbilical vessels are ligated after they have ceased to pulsate, the average red blood cell count is greater by 584,481 than in those whose cords are ligated while still pulsating.

OPHTHALMOLOGY

By ROBERT J. WARNER, M.D.
Doctors Building, Nashville

The Significance of Errors of Refraction in Chronic Blepharitis of Children. E. J. Somerset. *Archives of Ophthalmology*, November, 1939.

The purpose of this paper is to inquire into the significance of refractive errors as an etiologic factor in children suffering from chronic blepharitis or blepharoconjunctivitis. All the children forming the basis of this study were referred from hospitals and clinics in London and elsewhere after undergoing treatment generally for a long period. They are patients who had not responded to treatment in the outpatient department. In many instances correct glasses had been prescribed at the hospital or clinic without materially affecting the course of the disease. An analysis is given of the findings of refraction with atropine cycloplegia of the eyes of 300 children between the ages of two and thirteen years.

The following summary is given by the author:

"(1) There is no significant difference in the spherical refractive error in children suffering from blepharitis in comparison with the normal child.

"(2) The incidence of astigmatism is similar in blepharitis cases and normal children.

"(3) Unocular cases do not show blepharitis more frequently in the eye with the greater ametropia.

"(4) Causes other than errors of refraction must be sought for in blepharitis in children."

PEDIATRICS

By JOHN M. LEE, M.D.
Doctors Building, Nashville

Pneumonia in Infants and Children. Benjamin W. Carey, M. D., and Thomas B. Cooley, M. D., Detroit, Michigan. The Journal of Pediatrics 15: 613, November, 1939.

In the six months ending June 1, 1939, 630 children in the Children's Hospital of Michigan were treated for pneumonia. Of these, 248 received sulfapyridine, 106 were treated with serum, and 276 received no specific treatment. These patients were infants and children under twelve years of age.

In the group zero to two years of age the results were as follows: 138 received sulfapyridine, six died, rate 4.3 per cent; fifty-two were given serum, six died, rate 11.5 per cent; 174 were untreated, twenty-two died, rate 12.6 per cent.

In the group two to twelve years of age, 110 were given sulfapyridine, one died, rate 0.9 per cent; fifty-four received serum, one died, rate 1.8 per cent; 102 untreated, three died, rate 2.9 per cent.

The dose of sulfapyridine varied from three-fourths to two grains per pound per day. The estimated daily dose was given for forty-eight hours after the temperature returned to normal, then half that dose was given for two or three days. Toxic manifestations were infrequent, neither hemolytic anemia, leucopenia, or hematuria were observed. It is suggested that the maintenance of an adequate fluid intake may have some connection with absence of toxic manifestations.

Empyema was present on admission in twenty cases, where the pneumococcus was the causative organism, and one case developed in each of the groups receiving specific treatment. Specific treatment apparently reduced other complications, such as otitis media, mastoiditis, and meningitis.

There were six cases of pneumonia due to staphylococcus, all developed empyema, and all died in spite of intensive treatment with sulfapyridine.

ROENTGENOLOGY

By FRANKLIN B. BOGART, M.D.
Medical Arts Building, Chattanooga

Further Experience with Roentgen Therapy for Bronchiectasis. M. Berck and Wm. Harris. Radiology, Vol. 32, No. 6, p. 693, June, 1939.

In selection of cases, no case was treated that was acute or in which the condition was of recent

origin. Since bronchiectasis is known to have spontaneous remission, the cases were observed over periods of months before instituting treatment to be sure that they had a maintained high level of expectoration. All cases were thoroughly investigated by means of bronchography and bronchoscopy, and the unequivocal diagnosis of bronchiectasis established. Bronchiectasis is a diagnosis of exclusion. While the exact location and extent of the lesion must be determined by the above-mentioned means, it is very essential that such conditions as pulmonary tuberculosis, pulmonary abscess, bronchial foreign body, bronchial adenoma, and bronchial carcinoma be excluded.

The majority of cases treated had been previously unsuccessfully treated by bronchoscopic drainage and lavage, pneumothorax, phrenic nerve interruption, and climatotherapy. They were treated by roentgen therapy as a last resort, the alternative being radical operative procedures such as lobectomy or pneumonectomy.

CLASSIFICATION OF BRONCHIECTASIS

Group 1. Composed of those cases where clinical symptoms suggest only a chronic bronchitis with superadded catarrhal infection. Course relatively benign, suppuration is not noticeable. There is some cough with variable amounts of mucoid or purulent sputum, febrile episodes are rare, pneumonitis and hemoptysis are rare. Such patients rarely require hospitalization. Seasonal variations are marked, and disablement is rare. Remissions of expectoration and other symptoms are frequent.

Group 2. Includes those cases who are obviously suffering from a severe chronic infection. The sputum is profuse and abhorrently fetid; cough is harassing and always productive; episodes of fever and pneumonitis with progression of symptoms are common; clubbing of the digits is marked; hemoptyses are not unusual, and disablement from activity is the rule. Bronchography reveals cylindrical, fusiform, and sacular dilations, and X-ray examination shows marked signs of parenchymal involvement. The lung in such conditions is a sort of foul sponge, draining pus constantly. The condition is usually multilobar and not uncommonly bilateral.

Group 3. In this group are those cases which occupy a middle ground between the first two groups. While cough is distressing, the sputum is not so profuse and is not continuously fetid. They are not usually extremely toxic and are usually not completely incapacitated from work. Lipiodol bronchography reveals marked and extensive dilations, but the parenchymal involvement is not nearly so marked as in the second group. Fever and episodes of pneumonitis are occasional. These patients may present the same degree of infection and symptoms for years, but do progress ultimately to the more severe form of the disease.

RESULTS OF ROENTGEN THERAPY

Table I—Non-Foul Catarrhal Bronchiectasis

Greatly improved	3
Moderately improved	1
Unimproved	1
Total	5

Table II—Foul Suppurative Bronchiectasis Secondary to Chronic Lung Abscess (Operated Upon)

Greatly improved	10
Moderately improved	1
Unimproved	7
Deaths	2
Total	20

Table III—Foul Suppurative Bronchiectasis

Greatly improved	18
Moderately improved	7
Unimproved	7
Deaths	8
Total	40

ROENTGEN TECHNIQUE

No other methods of treatment were used so as to test the effect of X-ray. Anterior, posterior, and lateral fields were used, cross firing all the areas of disease as revealed by bronchoscopy and bronchography. The treatment period usually covered three months, and each field received a total of 1500 r. The physical factors used were 180 to 200 kilovolts, fifty centimeters distant, 0.5 millimeters copper plus one millimeter aluminum filter, average size of field ten by fifteen centimeters. At each treatment, two or three fields received seventy-five r measured in air.

The patients were treated two or three times a week, and usually during the time of treatment, the symptoms are aggravated. The authors believe that failures reported by some workers are due to the fact that they discontinued treatment during this period of exacerbation of the symptoms. They advocate continuing the treatment until completion of the course outlined above and do not expect the maximum results for four months after conclusion of treatment.

CONCLUSION

1. Roentgen therapy in moderate dosage as the sole method of treatment for chronic suppurative bronchiectasis is feasible and successful, resulting in symptomatic improvement in a considerable proportion of cases.

2. The clinical improvement in chronic suppurative bronchiectasis treated with moderately high dosage of roentgen therapy may be so great in some cases as to approach a practically complete cessation of the symptoms of expectoration and cough. These patients now appear clinically well and arrested of their previous symptoms of suppurative bronchiectasis.

3. Follow-up examination, over a period in some instances of six years, in those cases that have been improved has shown no recurrence of symptoms with upper respiratory infections.

SURGERY—GENERAL AND ABDOMINAL

By HATTLE MALONE, II, M.D.
1400 Monroe Avenue, Memphis

Acute Perforated Peptic Ulcers. Marshall W. Kelley, M.D. Surgery, 6: 524, October, 1939.

In this review of 152 cases of acute perforated peptic ulcers covering a period of six years the incidence of this condition was 0.0012 per cent of all admissions to the hospital. Almost one-half of these patients were between thirty and fifty years of age; there was little if any seasonal variation; and the usually marked predominance of males, 95.4 per cent.

Previous gastric disturbance had occurred in 84.2 per cent and in 15.8 per cent the pain of perforation was the first symptom of any gastric disturbance. Only two patients gave a history of previous perforation. In ascertaining the history of the perforation, the various symptoms were evaluated to show the relative occurrence of each. In 40.7 per cent of the cases the pain was described as being in the epigastrium and general abdomen; in 34.2 per cent in epigastrium alone; in 15.5 per cent generalized abdominal pain was described. In 87.4 per cent the pain was described as "violently severe and knifelike." Vomiting occurred in 74.3 per cent. In only 6.1 per cent was there blood in the vomitus. As to physical findings in 117 cases there was generalized abdominal tenderness and rigidity in which the area of maximum localization was stated. The apparent shock following perforation is not true shock; although the temperature may be subnormal the pulse will not be fast and the blood pressure will be within normal limits. Later the temperature and pulse may be normal and the intensity of the pain subside. This stage is followed by peritonitis.

Laboratory findings reveal a leucocyte count which will average 14,000, but there may be great variations. A low count is indicative of grave prognosis. Roentgenography is an adjunct in diagnosis in that air may be demonstrated under the diaphragm on a plate taken in the upright position. The absence of this finding should not be relied upon as in this series it was present in only 68.9 per cent.

The correct preoperative diagnosis was made in 83.5 per cent of cases, the mistaken diagnoses being acute appendicitis, acute cholecystitis, acute pancreatitis and intestinal obstruction. The mortality increases steadily with delay in operation. In 106 cases operated upon in the first twelve hours the mortality rate was 19.8 per cent.

Treatment in the cases operated upon consisted of simple closure with the suture of an omental

tab over the closure in 81.5 per cent. Drainage of the abdominal cavity employed in a majority of the cases, but there was little if any influence on the mortality rate. Spinal anesthesia was used in most cases. Pulmonary complications occurred in 37.5 per cent, of which one-half were pneumonia.

Of the patients on which a follow-up was made a good result was obtained in 75.4 per cent, fair in 17.5 per cent, and poor in 7 per cent.

UROLOGY

By TOM R. BARRY, M.D., F.A.C.S.

By G. A. WILLIAMSON, JR., M.D.

Medical Building, Knoxville

Idiopathic Gangrene of the Scrotum. Case Report.

Henry S. Browne, M.D., and Ray L. Smith, M.D.
Southern Medical Journal, Vol. 32, November, 1939.

This condition was first described by Fournier in 1883. In 1920 Randall collected 147 cases from the literature and added sixteen of his own. Since this date Gibbon, Goldstein, and Jaffee have described the condition and brought the cases to 228 reported.

The etiology of idiopathic gangrene of the scrotum is unknown, for producing organisms are found in some cases. Streptococci are also frequently found. The portal of entry is undetermined. The onset is sudden with chills, fever, rapid pulse, nausea, vomiting, marked toxemia, and delirium. There is pain, swelling, and discoloration of the scrotum. Gangrene usually appears within forty-eight hours, and sloughing of the skin and subcutaneous tissues follow, leaving the testes and cords exposed. Secondary hemorrhage may occur at this stage. Once the wound is clean, the scrotal tissues regenerate very rapidly and soon reform the scrotum.

The treatment consists of supportive measures to combat the extreme toxemia, incision, and drainage of the scrotum followed by warm applications of potassium permanganate. In suitable cases, after the gangrenous tissue has sloughed and the field is clean, a plastic operation may be performed, covering the testes with skin of the perineum and thighs.

These authors report a case who had a plastic operation as described with good results.

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 Dr. Andrew Smith, Knoxville (1940)
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The following list of members of the Tennessee State Medical Association is published in accordance with a provision in the constitution of the association.

The list of active members includes the names of those who were members on December 10, 1939.

The names of veteran members appear on a separate list following active members.

The arrangement of names is as follows:

The counties are arranged alphabetically. Towns

in each county are arranged alphabetically. Members in the towns are arranged alphabetically.

Names of members residing outside the state are arranged alphabetically on the last page of this section.

A list of the members who have died during the year 1939 is published on the last page of this section.

If any errors are found kindly report them to the JOURNAL, 508 Doctors Building, Nashville.

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<i>Bedford County</i>	<i>Bell Buckle</i> T. H. Woods	<i>Crab Orchard</i>	<i>Crab Orchard</i> W. S. Duoley	Will R. McCamey F. A. Niles	W. M. Littler L. S. Love S. L. Lowenstein	W. W. Wilkerson, Jr.
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A. T. Hicks (Mbr. Carroll Co.) J. M. Mansfield (Mbr. Carroll Co.)	<i>Bedford County</i>	<i>Crab Orchard</i>	<i>Crab Orchard</i> W. S. Duoley	Will R. McCamey F. A. Niles	W. M. Littler L. S. Love S. L. Lowenstein	W. W. Wilkerson, Jr.
<i>Bledsoe County</i>	<i>Bedford County</i>	<i>Crab Orchard</i>	<i>Crab Orchard</i> W. S. Duoley	Will R. McCamey F. A. Niles	W. M. Littler L. S. Love S. L. Lowenstein	W. W. Wilkerson, Jr.
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J. P. Young, Jr. (Mbr. Hamilton Co.)	<i>Bedford County</i>	<i>Crab Orchard</i>	<i>Crab Orchard</i> W. S. Duoley	Will R. McCamey F. A. Niles	W. M. Littler L. S. Love S. L. Lowenstein	W. W. Wilkerson, Jr.
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<i>Calderswood</i>	<i>Bedford County</i>	<i>Crab Orchard</i>	<i>Crab Orchard</i> W. S. Duoley	Will R. McCamey F. A. Niles	W. M. Littler L. S. Love S. L. Lowenstein	W. W. Wilkerson, Jr.
Nettie C. Parrette R. G. Farrette	<i>Bedford County</i>	<i>Crab Orchard</i>	<i>Crab Orchard</i> W. S. Duoley	Will R. McCamey F. A. Niles	W. M. Littler L. S. Love S. L. Lowenstein	W. W. Wilkerson, Jr.
<i>Greenback</i>	<i>Bedford County</i>	<i>Crab Orchard</i>	<i>Crab Orchard</i> W. S. Duoley	Will R. McCamey F. A. Niles	W. M. Littler L. S. Love S. L. Lowenstein	W. W. Wilkerson, Jr.
J. E. Hall A. L. Jones	<i>Bedford County</i>	<i>Crab Orchard</i>	<i>Crab Orchard</i> W. S. Duoley	Will R. McCamey F. A. Niles	W. M. Littler L. S. Love S. L. Lowenstein	W. W. Wilkerson, Jr.
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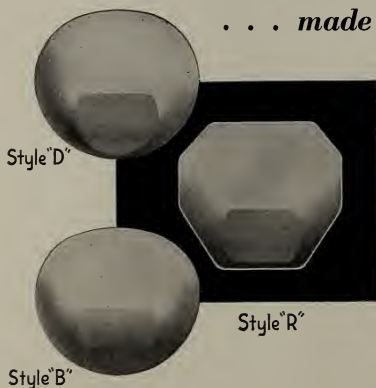
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